Health perception, morale, social functioning, preoccupation with health, and social support among postoperative coronary artery bypass graft surgery patients
by Cynthia Ann Ceynar

A thesis submitted in partial fulfillment of the requirements for the degree of MASTER OF NURSING
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Abstract:
The purpose of the study was to describe and quantify the health perception, morale, social functioning, preoccupation with health, and social support among postoperative coronary artery bypass graft surgery (CABGS) patients. Review of the literature and professional experiences and observations indicated that postoperative CABGS patients experience problems in these areas. An ex-post facto descriptive design was used to implement the study.

Twenty CABGS patients who were from three months to one year postoperative comprised the sample. All respondents had surgery at the same area medical center. Data were collected by personal administration of Thomas F. Garrity's (1972) Social and Psychological Status of Myocardial Infarction Patients During Recovery Questionnaire, Roger E. Mitchell's (1979) Close Attachments Scale, and a demographic data sheet.

Results were analyzed with descriptive statistical procedures including ranges, frequency, distributions, percentages for frequency distributions, mean, standard deviation, and variance. Analysis of the data revealed that respondents have fairly positive health perceptions, high morale, and participate in all activity categorized at least as much as they did preoperatively. Additionally, respondents reported themselves to have low preoccupation with their health and positive, reciprocal social support.

Implications were made for nursing assessments of patient health perceptions, activity levels', and social support resources, and provision of educational programs for patients and their families about the rehabilitation process. Recommendations for further research included instrument standardization and replication of the study with a larger sample.

HEALTH PERCEPTION, MORALE, SOCIAL FUNCTIONING, PREOCCUPATION WITH HEALTH, AND SOCIAL SUPPORT AMONG POSTOPERATIVE CORONARY ARTERY BYPASS GRAFT SURGERY PATIENTS

by

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This thesis has been read by each member of the thesis committee and has been found to be satisfactory regarding content, English usage, format, citations, bibliographic style, and consistency, and is ready for submission to the College of Graduate Studies.

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ABSTRACT

The purpose of the study was to describe and quantify the health perception, morale, social functioning, preoccupation with health, and social support among postoperative coronary artery bypass graft surgery (CABGS) patients. Review of the literature and professional experiences and observations indicated that postoperative CABGS patients experience problems in these areas. An ex-post facto descriptive design was used to implement the study.

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Implications were made for nursing assessments of patient health perceptions, activity levels, and social support resources, and provision of educational programs for patients and their families about the rehabilitation process. Recommendations for further research included instrument standardization and replication of the study with a larger sample.

CHAPTER ONE

INTRODUCTION

Background and Rationale

America's number one health problem today is cardiovascular disease. Cardiovascular disease affects some 40 million Americans, and of those 40 million, four million suffer from coronary artery disease (American Heart Association, 1983). For people developing coronary artery disease, an estimated 1.5 million will have a myocardial infarction each year (American Heart Association Statistics, 1983). Of these 1.5 million, 100,000 will have coronary artery bypass graft surgery (Zyzanski, Stanton, Jenkins, & Klein, 1982).

Coronary artery bypass graft surgery (CABGS) was designed as a treatment for coronary artery disease with the specific objectives of decreasing the frequency and severity of angina and improving the functional myocardial status (Hultgran, Takaro, & Detre, 1978; Kloster, Kremakau, & Ritaman, 1979; Mather, Guinn & Anastassiades, 1975). The frequency and severity of angina have been viewed as primary factors in limiting the individual's ability to carry out a full range of life functions. With the reduction or elimination of angina, the individual was expected to resume a full range of life functions.

However, health care providers are discovering that many heart surgery patients do not resume a full range of normal activities postoperatively in spite of their physicians' appraisals of improved physical condition (Brown & Rawlinson, 1975; Gundle, Reeves, Tate, Raft, &

McLaurin, 1980). These patients may even describe their postoperative condition as worsened with complaints of fatigue, weakness, loneliness (Wilson-Barnett, 1981), and difficulty with memory, and may also develop preoccupation with physical symptoms and bodily functions (Ramshaw & Stanley, 1981). Gundle et al. (1980) found that of the 30 patients in their study, 83 percent were unemployed, and 57 percent were sexually impaired despite good physiological outcome as measured by treadmill and cardiac function. This same group also experienced low self-esteem, lack of pleasure from close relationships, and constricted social life (Gundle et al., 1980). Zyzanski, Stanton, Jenkins and Klein (1981) suggested that psychological impairments may greatly outnumber the physical impairments in postoperative CABGS patients; they recommended that the definition of a successful recovery be expanded beyond the physical aspect of pain to include the aspects of psychosocial adjustment. Although there has been considerable success in attaining the objectives of decreasing the frequency and severity of angina and improving myocardial status with CABGS (Health Science Review, 1984) postoperative study findings indicate that a significant number of patients experience psychosocial adjustment problems.

Statement of the Problem

Coronary artery bypass surgery is a procedure designed to improve the individual's quality of life by reducing or eliminating the angina preventing the accomplishment of chosen activities. The majority of research done to date on post CABGS patients has focused on physical and physiological aspects of recovery (Loop, 1983a, & Wilson-Barnett, 1981).

According to this type of research, CABGS is considered a "success" if the angina is relieved or eliminated, and cardiac function is improved. This unidimensional view of recovery is proving inadequate, as recent studies indicate that a significant number of post CABGS patients who have improved cardiac function and relief from angina do not resume a full range of normal activities and are experiencing psychosocial adjustment problems. Psychosocial problems may actually outnumber physical problems for post CABGS patients (Zyzanski et al., 1981).

Research about psychosocial problems remains limited among post CABGS patients. In comparison to the research on physiology, morbidity, and mortality, research on psychosocial adjustment is rare (Wilson-Barnett, 1981). The research that has been done on psychosocial adjustment points to problems in the areas of health perception, morale, social functioning, and preoccupation with health.

Research Question

On the basis of this researcher's past experiences with coronary artery bypass patients and review of the related literature, the following research question was formulated:

> What is the health perception, morale, social functioning, preoccupation with health, and social support of patients three months to one year after coronary artery bypass graft surgery?

Purpose

The purpose of the study was to quantify and describe the following psychosocial adjustment factors: health perception, morale, social functioning, preoccupation with health, and social support among postoperative CABGS patients. This researcher's interest in psychosocial adjustment after CABGS was stimulated through professional experiences and observations of postoperative patients in a cardiac rehabilitation program. Follow-up indicated that some of these patients had not returned to normal social and vocational activities after CABGS in spite of the physician's appraisal of their physical status as significantly improved, and the expectation that their improved physical status would permit return to normal level of functioning. In addition, these patients demonstrated behaviors identified in the literature (Gundle et al., 1980; Wilson-Barnett, 1981; & Zyzanski et al., 1981) as indicative of psychosocial problems. In view of these patient behaviors, this researcher considered that psychosocial adjustment, or the lack of it, may be significant in terms of returning to a normal level of functioning after CABGS surgery and, therefore, selected this area for investigation.

Definition of Terms

The following operational definitions were employed in the development of the study:

Health perception referred to the respondent's self-evaluation of his/her health. The variable was operationalized using the health

perception subscale of Garrity's (1972) Social and Psychological Status of Myocardial Infarction Patients during Recovery Questionnaire.

Morale referred to the respondent's self-evaluation of his/her happiness or sadness. The variable was operationalized using the morale subscale of Garrity's (1972) Social and Psychological Status of Myocardial Infarction Patients during Recovery Questionnaire.

Social functioning referred to the respondent's self-evaluation of his/her participation in activities of daily living, and recreational, social, and vocational activities. The variable was operationalized using the social functioning subscale of Garrity's (1972) Social and Psychological Status of Myocardial Infarction Patients during Recovery Questionnaire.

Preoccupation with health referred to the respondent's self-evaluation of how engrossed he/she was with thoughts about health. The variable was operationalized by using the preoccupation with health subscale of Garrity's (1972) Social and Psychological Status of Myocardial Infarction Patients during Recovery Questionnaire.

Social support was defined as material assistance, emotional support, companionship, and information received from those individuals with whom the respondent feels close (Mitchell, 1979). Social support was operationalized using Mitchell's (1979) Close Attachment Tool.

Coronary Artery Bypass Graft Surgery CABGS was defined as an invasive procedure in which stenosed coronary arteries are bypassed with an autogenous vein or artery graft to provide for revascularization of the myocardium (Beyers & Dudas, 1977).

Post Coronary Artery Bypass Graft Patient was defined as an individual who had experienced coronary artery bypass surgery. For the purpose of this study, subjects were selected who were three months to one year postoperative.

Basic Assumptions

The following basic assumptions were utilized in the development and implementation of this study:

1. Patients can honestly describe and quantify their health perceptions, morale, preoccupation with their health, and social functioning.
2. Patients can honestly describe and quantify their social support systems.
3. Patients' health perceptions are important in their acceptance or rejection of the sick role.

Summary

Research done to date on post CABGS patients has focused on physical and physiological aspects of recovery. According to this type of research, CABGS is considered "successful" if the angina is relieved or eliminated and cardiac function is improved. This unidimensional view of recovery has proved inadequate. Psychosocial adjustment problems described in the literature as limiting post CABGS patients' return to normal activities include fatigue, anxiety, worry about health, and social isolation. Psychosocial problems may outnumber physical problems for post CABGS patients (Zyzanski et al., 1981).

Wilson-Barnett (1981), a nurse and lecturer, called for continued research on psychosocial adjustment after CABGS. Further study on psychosocial adjustment after CABGS will augment the knowledge base to guide the assessment and intervention efforts of nurses and allied health professionals in working with post CABGS patients.

CHAPTER TWO

LITERATURE REVIEW

Introduction

Many psychosocial factors may be considered in the investigation of patients' psychosocial adjustment after an illness or surgery. Some of the factors which have been studied among post CABGS patients include emotional status, social network, and employment (Zyzanski, Stanton, Jenkins, & Klein, 1981); anxiety and depression, hostility, self-concept, and vigor and fatigue (Wilson-Barnett, 1981); employment, sexual functioning, psychiatric symptomatology, and psychosocial adjustment to illness (Gundle, Reeves, Tate, Raft, & McLaurin, 1980); depression and cognitive dysfunction (Willner & Rabiner, 1982); and perceived health, self-concept, body anxiety, depression, and daily activities (Roviaro, Holmes, & Holmsten, 1984). Despite an increasing emphasis on psychosocial adjustment after CABGS as evidenced by the above-mentioned studies, the research in this domain still remains rather limited. Compared to the thousands of papers done on the physiological and technical aspects of CABGS (Loop, 1983a), the research done on postoperative psychological status is an exception to the CABGS literature.

The purpose of this chapter is to present a review of the related literature and examine the concepts under investigation that provide the theoretical rationale for the study. Studies pertaining to the psychosocial factors of health perception, morale, social functioning,

preoccupation with health, and social support among heart patients are reviewed. The chapter is finalized by a summary of the literature review.

Health Perception

Garrity (1972, 1973a, & 1973b) was one of the first investigators to examine health perception among heart patients (those having experienced a myocardial infarction). His primary focus was the assessment of predictors of return to work among patients suffering a myocardial infarction. Garrity (1973a, & 1973b) found that there was no correlation between the individual's health perception and the cardiologist's appraisal of the individual's physical status. He also found that the individual's health perception was a better indicator of the individual's recovery than any of the other physical, social, or psychological variables he studied. Garrity suggested that patient perceptions are important indicators of the recovery process, although they are usually ignored in favor of more concrete variables such as socio-economic status and the severity of the myocardial infarction.

Brown and Rawlinson (1975) had similar findings to Garrity's when they measured the tendency to accept or reject the sick role among 150 valve replacement patients. Tendency to reject the sick role was measured by a semantic differential scale in which respondents were asked to rate "myself after heart surgery" compared to "most persons who are sick." Regression analysis was done to determine which variables were predictors of postoperative tendency to reject the sick role. Preoperative tendency to reject the sick role, depression, age, gender,

and duration of illness prior to surgery were all significant indicators of postoperative tendency to reject the sick role at a .05 level or greater. There was no significant relationship between the patient's actual physical status (measured by the New York Heart Association Functional Status scale) and the tendency to reject the sick role. This finding supports Garrity's suggestion of importance of patient perception in recovery.

Ramshaw and Stanley (1981) found that individual personality and coping style influenced the post CABGS patient's perceptions of surgical outcome, and that these perceptions were relatively independent of cardiac symptomatology. They studied 53 patients (43 males and 11 females) with a mean age of 55 who were 12 to 27 months postoperative. Measures obtained from subjects included degree of angina, scores obtained on four standard personality tests: Eysenk (1975) Personality Questionnaire, Rotter's (1966) Internal-External Locus of Control, a modified version of Butler-Haigh self-esteem measure (Eston, Stanley, & Burrows, 1978), Bernard and Leopold's (1963), Social Desirability Test, and a written description of the main effects the surgery had on their life-styles (Ramshaw & Stanley, 1981). Patients (n=15) who had a high mean neuroticism score were seemingly preoccupied with physical symptoms and bodily functions and complained of "extreme tiredness or shortness of breath" even though CABGS had reduced or eliminated the angina. Discriminate analysis of the variables indicated that perception of surgical effects on life style was unrelated to gender, age, time since operation, presence or absence of angina, and employment status. Although these particular findings differed from those of Brown and

Rawlinson (1975) as far as variables related to postoperative rejection of the sick role, the similarity between the two studies was the lack of relationship between the respondents' perceptions and their actual physical health status.

LaMendola and Pelligrini (1979) found that quality of life improvement was associated with the patients' postoperative experiences (activity and affiliations) and the patients' perceptions of physical limits. They defined quality of life as, "the individual's achievement of a satisfactory social situation within the limits of perceived physical capacity" (LaMendola and Pelligrini, 1979, p. 457). In their study, 95 CABGS patients (79 male and 16 female) with a mean age of 54.5 years at the time of surgery, were interviewed from 6 to 37 months postoperatively for pre- and postoperative work status, job satisfaction, desire to return to work, social situation (who and what helped most), satisfaction with self, and perceived physical limits. Sixty percent of the sample were employed and perceived few or no physical limits. Of those who perceived themselves as physically limited, 59 percent were unemployed. The authors concluded that postoperative experiences and perceptions of physical limits were likely to influence the patient's desire to return to work, and even though older persons tended to retire after surgery, they still felt physically unlimited and were self-satisfied.

According to these studies, how a post CABGS patient perceives his/her health may influence whether the patient will exit from the sick role or not. It is indeed a problem if the return to full range of normal activities is limited by the post CABGS patients' level of

perceived health versus their actual physical condition. Further research is needed to describe and quantify health perception as a factor in the psychosocial adjustment of post CABGS patients.

Morale

Morale, or the overall level of happiness/sadness, has not been researched as a single variable among post CABGS patients. However, Zyzanski et al. (1981) included a happiness/sadness scale as a part of the "Current Emotional State" portion of their questionnaire in examination of medial and psychosocial outcomes for 949 heart surgery patients (724 CABGS and 225 valve replacements). Those respondents who described themselves as "relatively happy" (n=380) were currently working and free of medical and psychosocial problems.

Garrity (1973a), who studied 58 post myocardial infarction patients for social involvement and activeness as predictors of morale, had similar findings as Zyzanski et al. (1981k). Garrity based his study on activity theory from social gerontology. According to Garrity, the theory postulates that social involvement and activeness are primary determinants of morale among the elderly. As post myocardial infarction patients may experience reductions in social involvement and activity the same as the elderly, Garrity hypothesized that social involvement and activity were predictors of morale among post infarct patients. He subsequently found that employment and participation in non-associational leisure activities were significantly associated to morale in his study population. In addition, Garrity found the strongest predictor of

morale among his sample population to be the individual's health perception.

Health is a concern for American adults, and of special concern for people who have had CABGS is understandable and expected. Further, the state of one's health, or the perception of that state, may be of concern in terms of the individual's happiness or sadness. Determination of morale among post CABGS patients requires further assessment and, therefore, was investigated in this study.

Social Functioning

Employment/unemployment was the most frequently investigated activity area among post CABGS patients (Wilson-Barnett, 1981). LaMendola and Pelligrini (1979) noted that this focus on employment status after CABGS implies a certain justification for the cost of CABGS, which is about $20,000 per operation (Zyzanski, Stanton, Jenkins, & Klein, 1982). According to LaMendola and Pelligrini (1979), the expense of the operation can supposedly be justified by the patient's resumption of gainful employment postoperatively.

Zyzanski et al. (1982) reported a variance in the literature on employment status of post CABGS patient ranging from 50 to 90 percent. Their study of 496 post CABGS patient was designed to determine the profile of the post CABGS patient who "typically returns to work" and possible profile differences between men and women. In addition, they investigated difficulties of those post CABGS patients who did not return to work and the possible effects of forced retirement on the post CABGS patient. Their questionnaire contained items for measurement of

demographic data, social background, life circumstances before CABGS, the surgical experience, emotional and social adjustment in the first postoperative year, and the current physical and emotional health. Employment data included changes in work status, changes in work environment, relationship with co-workers and employers, job title, physical exertion, job pressures, satisfaction, responsibility, and numbers of hours worked weekly before and after surgery. The authors found that 81 percent of the men and 58 percent of the women who were employed preoperatively returned to work postoperatively. Men more likely to return to work had higher incomes and professional jobs which required little physical exertion. For women, none of these variables were statistically significant. Of those respondents who did not return to work, only a small percentage experienced heart-related hospitalizations or recurrent angina or dyspnea. Those post CABGS patients who were forced to retire experienced higher morbidity than any other group in terms of repeat hospitalizations, other continuing health problems, and days requiring bed rest. The higher rate of morbidity among post open heart surgery patients (both valve replacement and CABGS) forced to retire was also a finding of an earlier study by Zyzanski et al. (1981). Results show that activity, particularly work, may be related to the recovery of the CABGS patient.

Hammermeister (1981) studied 1,850 CABGS patients for factors related to survival and the effect of CABGS on quality of life (this "Seattle Heart Watch Study" was designed to compare survival and quality of life between medically and surgically treated cardiac patients). Factors assessed in association with employment status included age,

education, functional class, extent of coronary disease, left ventricular function, physical activity associated with work, and preoperative employment status. Employment dropped from 75 percent preoperatively to the 62 percent postoperatively. In addition, Hammermeister (1981) found that instead of shifting to a job requiring lesser physical exertion postoperatively, patients shifted to retirement or unemployment. The single most significant factor in post surgical unemployment was the length of time the patients were unemployed preoperatively. Penckhofer and Holm (1983) investigated employment status among post CABGS patients as an objective indicator of quality of life. Thirty-four male post CABGS patients, aged 38 to 62 years, were interviewed three to eight months postoperatively for satisfaction with family, social, occupational, and sexual life (subjective indicators), and the intensity and frequency of anginal episodes, employment, and amount of physical activity (objective indicators). The respondents were split into two groups based on length of time since surgery. Group 1 members (n=17) were three to five months postoperative, defined as "beginning to return to normal or near normal activity." Group 2 members (n=17) were six to eight months postoperative, defined as "settled into their normal routines." Both groups were asked to rate the subjective and objective indicators for preoperative and present status, and there was a future projection for life satisfaction. The authors found that both groups had significant increases in the level of physical activity postoperatively and greater satisfaction with family life, social life, and sexual life after surgery. There was no significant difference in the number of hours worked per week postoperatively for either group. The

authors suggested that the absence of angina after surgery and increased certainty about the future were precipitators of their findings.

Loop (1983b) noted similar findings as Penckhofer and Holm (1983) in that relief of symptoms had been positively associated with return to work after CABGS surgery. Zyzanski et al. (1981) found that post heart surgery patients who were forced to retire had poor psychosocial recovery and that the poor psychosocial outcomes were not attributable to medical problems. Although LaMendola and Pelligrini (1979) found high unemployment and retirement rates in their sample population, the majority of their sample (60 percent) felt they had no physical limitations, which was considered a reflection of high satisfaction with surgical results. Since post CABGS patients may be physically active, although not gainfully employed, LaMendola and Pelligrini have suggested that productivity measures be used along with employment status to evaluate post-surgical activity levels. Wilson-Barnett (1981) drew similar conclusions in terms of assessing activity of post CABGS patients; she suggested that more research be directed at quantifying all activities of post CABGS, not just gainful employment. For these reasons, social functioning was included in this study, and was defined to include vocational, recreational, leisure, and volunteer activities.

Preoccupation with Health

As with morale, preoccupation with health has not been studied as a single item among post CABGS patients but has been included along with the investigation of other psychosocial factors (Pilowsky, Spence, & Waddy, 1979; Ramshaw & Stanley, 1981; and Thurer, Levine & Thurer,

1980-81). Preoccupation with health, voiced by CABGS patients, may have its basis in fear of the efficacy of the operation and the hazardousness of the surgery, as it is a fairly new procedure (Thurer et al., 1980-81). Additionally, coronary artery atherosclerosis is a progressive disease, demonstrated by the fact that atherosclerotic plaques will build up in grafts and may even occlude them (Loop, 1983a). The fear and worry about the recurrence of the disease has a sound basis in reality.

Thurer et al. (1980-81) found that one-third of their sample population (n=7) experienced "residual anxiety stemming from the operation" four months postoperatively. Of this group, 57.1 percent also experienced preoperative anxiety. This anxiety was defined as apprehensiveness and worry about the operation.

Ramshaw and Stanley (1981) found that 28 percent of their sample population (n=53) demonstrated somatic concern -- "Patient seems currently concerned about physical symptoms and bodily function" (p. 84). Forty-six percent of the group did complain of residual angina, although for six of these patients, the angina was rated as a grade one, which is angina "only on strenuous, rapid, or prolonged exertion" (p. 83).

Complete relief from angina was significantly associated with low health concern, low pain-related illness anxiety, low irritability, high illness vulnerability, low interpersonal discord, and high responsiveness to reassurance in the follow-up study conducted by Pilowsky et al. (1979) on 50 post CABGS patients. For these respondents, all of whom were male, the average age was 53.3 years and the average length of time since surgery was three months. The initial sample interviewed for

illness behavior using Pilowsky et al.'s (1979) Illness Behavior Questionnaire consisted of 122 respondents who were one week preoperative. Follow-up study consisted of assessing relief from anginal symptoms as either complete (good outcome), substantial relief, no better or worse, or death. Substantial relief, no better or worse, and death were considered "poor outcomes." Angina relief was then correlated with 11 factors of the Illness Behavior Questionnaire; factor seven, high responsiveness to reassurance, was most strongly associated with complete relief from angina, followed by low interpersonal discord, high illness vulnerability, low pain-related illness anxiety, low irritability, and low health concern.

Considering the significance of open heart surgery, it is reasonable to expect that CABGS patients will experience worry about their health, and several of the post CABGS patients cared for by this researcher voiced such concern. This worry about health was often focused on fear of recurrence of angina, heart attack, and/or heart surgery, potentially inhibiting resumption of normal activities. Further assessment of preoccupation with health among post CABGS patients is required to determine its significance in the recovery process; therefore, this factor was also included in the present investigation.

Social Support

Social support can be defined as the support accessible to the individuals through ties to other individuals, groups, and community (Lin, Ensel, Simeone, & Kuo, 1979). Cobb (1976) defined social support

as information leading the individual to believe s/he is cared for and loved, s/he is a member a network of mutual obligations, and that s/he is valued and esteemed. Mitchell (1979) conceptualized social support as material assistance, companionship, emotional support, and information. These definitions clarify and enhance the idea that social support may be a significant factor in the psychosocial adjustment for post CABGS patients.

According to Norbeck (1981), social support augments the individual's personal strength by leading the individual to believe s/he is valued and esteemed, and by moderating the effects of life transitions. She further stresses that the individual's perceptions of problematic experience can be reduced or neutralized, thereby aiding the individual in personal mastery. The feelings of esteem and mastery precipitate the security needed for generativity and risk-taking (Norbeck, 1981). These theoretical perspectives emphasize the significance of social support as a key factor in the assessment of an individual's psychosocial adjustment, particularly those experiencing a major life event.

LaMendola and Pelligrini (1979) found that positive affiliative experiences were related to lower level of perceived physical limits among post CABGS patients, and that spouses were of constant importance. They also noted that the closer the patients were to surgery, the more important hospital personnel were to the patient, but after the first postoperative year, the family "bears the main thrust of support for the patient" (LaMendola & Pelligrini, 1979, p. 460).

Wilson-Barnett (1981) had similar findings in her study. Respondents frequently mentioned social support as helpful, with the spouse

being particularly important; bachelors and widowers reported insecurity and loneliness upon return home after surgery. In Ballard's (1981) study of environmental stressors for 22 patients in the surgical intensive care unit, "missing your spouse" was ranked the number four stressor (chosen 88.2 percent of the time) out of forty possible items in a Q sort.

Finlayson (1976) studied the outcome of 76 myocardial infarction patients based on the wives' perception of support received from the network. Twelve months after infarction, the favorable outcome group (husband returned to work and wife defined the illness as over) differed from the unfavorable outcome group in the amount of perceived network support. Those respondents whose husbands were in the favorable outcome group received support from a wider range of network resources than the unfavorable outcome group.

Zyzanski et al. (1981) examined social networks as a portion of the respondents' "psychosocial outcome" in their study on medical and psychosocial outcomes for heart surgery patients (both valve and CABGS surgery). Their tool, "Current Social Network," was designed to measure the respondent's size of household, attendance at organizational or religious meetings, family's response during recovery (over-protection, adequate support, isolation or avoidance), and perceived affection from family members. Low scores on the "Current Social Network" scale were considered representative of deficits in psychosocial support and were more common in females, Type A personalities, and those respondents with lower levels of education.

This researcher's interest in social support was largely precipitated by personal experience in working with convalescing post CABGS patients. The majority of the patients made such comments as, "I couldn't have done this without my wife's help," or, "My neighbor will cut the lawn (or shovel snow, etc.)." Family and friends are usually the first persons sought out for reassurance and advice in times of crisis or illness by more than half the adults experiencing these problems (Gourash, 1978). For these reasons, social support was included in the present study for investigation.

Summary

The recovery process from any illness/injury involves many physiological, psychological, and social factors (Wilson-Barnett, 1981). The physiological factors include the patient's previous health status and risk factors, the presence or absence of complications, further hospitalizations, and the patient's gender (greater risk in males) (Wilson-Barnett, 1981). Psychological factors include the patient's personality, nervousness, self-concepts, the patient's IQ and understanding about health care, the patient's expectations and ideas about health care, and role flexibility (Wilson-Barnett, 1981). The patient's support system, financial situation, pre-morbid occupational status, and health care professional's expectations and advice are all social factors related to the recovery process as noted by Wilson-Barnett (1981). All of these factors have importance in the total picture of patient recovery, and the difficulty in addressing recovery in CABGS patients is apparently due to the lack of research on the psychosocial

factors that may affect it. The lack of research on psychosocial factors which may affect recovery among post CABGS patients along with this researcher's experiences in working with such patients, were the precipitators of the present study.

In summary from review of the research that has been done on psychosocial factors and recovery among post CABGS patients, two generalizations can be made. First, evidence indicates there are psychosocial problems among post CABGS patients in the areas of perception as related to surgery, activity resumption, especially vocational activity, and psychiatric symptomatology which persists for some time after the operation. Secondly, these psychosocial problems exist irrespective of the post CABGS patient's actual physiological status.

Description and quantification of health perception, morale, social functioning, preoccupation with health, and social support may have implications for change in current treatments and approaches for CABGS patients, both pre- and postoperatively, as the problems become more clearly identified. The likelihood of a successful recovery process, including resumption of full range of activities, could be enhanced if these psychosocial adjustment factors were better understood and considered as part of the pre- and postoperative recovery plan. This research is based on the assumptions that psychosocial adjustment after CABGS deserves the same emphasis and consideration which formerly has been given to physiological functioning; and, in addition, that patient perceptions are significant in terms of psychosocial adjustment, including their perceptions of preoperative status and future projections. With a multidimensional approach to patient care, the post CABGS

patient's recovery process will be enhanced to realize better the rehabilitation goal of resumption of full range of normal activities.

CHAPTER THREE

METHODOLOGY

Introduction

The purpose of the study was to describe and quantify health perception, morale, social functioning, preoccupation with health, and social support among a sample population of twenty post CABGS patients. For implementation of the study, an ex-post facto descriptive design was utilized. In using an ex-post facto descriptive design, the variables are operationalized and measured but not manipulated by the investigator (Polit & Hungler, 1983). The following sections describe the sample selection methods, the study design, the instruments used for data collection, and protection of human rights.

Sample Selection

The target population from which the prospective sample was drawn consisted of all of the individuals who have had coronary artery bypass surgery at the area medical facility one year prior to the study (April 1, 1982 to March 31, 1983). The area medical center is a 290-bed facility with a service area of approximately 200,000 people. Access to the target population was gained through prior arrangement with each patient's cardiologist.

There were two limitations made upon the potential respondents. First, the potential respondent had to be from three months to one year

postoperative, allowing time for the respondent to have consent from his/her cardiologist to resume work and recreational activities (Wilson-Barnett, 1981). The second was that the potential respondent live within a sixty-mile radius surrounding the medical center due to time and monetary restrictions of this researcher.

Of the 29 potential respondents who met these limitations, 20 agreed to participate. From the remaining nine, five did not want to participate in the study, three were unable to be contacted, and one had expired.

The above-described method of sampling is the purposive method of non-probability sampling. The purposive method of sampling is based on the belief that a researcher's knowledge about a specific population and its elements can be used to handpick the cases to be included in the sample (Polit & Hungler, 1983). As with any type of nonprobability sampling, caution is warranted of influences and conclusions drawn from the data.

Instrument Description

The variables selected for description and quantification among post CABGS patients were health perception, morale, social functioning, preoccupation with health, and social support. Measurement of health perception, morale, social functioning, and preoccupation with health was accomplished by administration of Garrity's (1972) Social and Psychological Status of Myocardial Infarction Patients during Recovery Questionnaire (Appendix D). The instrument utilized to measure social support was Mitchell's (1979) Close Attachments Scale (Appendix D).

Permission was granted by Garrity and Mitchell to use their instruments in the present study (Appendix C). Because Garrity's (1972) original instrument was designed for post myocardial infarction subjects, the terms "heart attack" were replaced with the terms "heart surgery" with the exception of items 23 and 24. The terms "six months ago" were deleted from items 23, 29, 56, 67, 73, and 79. Permission was granted by Thomas F. Garrity to make these adjustments for the purposes of this study (Appendix C). The following paragraphs address how the instruments were specifically utilized to measure the variables.

Health perception, the respondent's self-evaluation of his/her health, included three measures: (1) the presence or absence of 19 symptoms thought to be indicators of psychophysiological disability; (2) assessment of heart condition as good, fair, or poor; and (3) an overall measure of health status using a ten-point ladder ranging from 0 (poorest health) to 9 (best health) at the present time, just before heart surgery, and the time of discharge from the hospital, and a projection of six months from the present. Also rated on the same ladder was the health of an "average" individual the same age as the respondent.

Morale was measured as the respondent's overall level of "happiness" or "sadness on a ten-point ladder with 9 as "happiest" and 0 as "saddest" at the present time, just before heart surgery, at the time of discharge from the hospital, six months from present, and for the "average" individual the same age as the respondent.

Social functioning was measured by the respondent's level of participation in nine activity areas: working on hobbies, sitting around doing nothing, sleeping, reading, watching television, visiting

friends and relatives, volunteer work, participation in community activities, and work. Also included were the respondent's comparisons of current involvement in these nine activity areas with pre-surgical involvement on a three-point scale with 1 as "involved less," 2 as "about the same," and 3 as "more." There were two specific "yes/no" questions about present employment, and a five-point scale measuring change of income after surgery with 0 as "dropped a little," and 4 as "gone up a lot." Additionally, activity level and social life are rated on the same kind of ten-point ladder as health perception, for example, at the present, just before heart surgery, at the time of discharge from the hospital, six months from the present, and for the "average" individual of the same age as the respondent.

Preoccupation with health was measured by a seven-point scale with 1 as "not worried at all," and 7 was "very worried" at the present time, just before heart surgery, at the time of discharge from the hospital, for the "average" individual of the same age, and for the respondent's family.

Mitchell's (1979) Close Attachments Scale was the instrument used to measure the social support provided and received from close relationships the respondent had with other individuals (Appendix D). The instrument also included the description of the demographic variables about the individuals to whom the respondent felt closest. Mitchell referred to this information as a "Social Network Measure" (Mitchell, 1979).

Social support was measured by material assistance, emotional support, companionship, and information received from those individuals

with whom the respondent felt "close to" on a three-point scale with 1 as "not at all," 2 as "somewhat," and 3 as "very much." Respondents were also asked to use the same three-point scale to determine the degree to which they provided information, material assistance, emotional support, and companionship to those they felt "close to" (Appendix D).

Demographic data about the social support system were also included in the measure of social support. These data described the demographic characteristics of the individuals with whom the respondents felt "close to," including number (to a total of six), gender, relationship (either as family or friend), the length of time the respondent has known the individual, age range, occupation, frequency of contact, context of recruitment, and the distance in miles from the respondent's home. The last item was an addition by this researcher, due to the large numbers of rural patients who received care at the aforementioned medical center.

In addition to these two instruments, a demographic data sheet prepared by this researcher completed the questionnaire package (Appendix D). The demographic data sheet included the following items in order to obtain a description of the sample: age, gender, occupation, place of birth, marital status, number of dependents, educational status, place of residence, length of time in place of residence, length of time since CABGS, childhood residence, any previous myocardial infarction, and list of present or chronic illnesses.

The questionnaire package was prefaced by a written Statement of Rights which included an explanation of rights of the respondents to

informed consent, voluntary participation, and the confidentiality of the data (Appendix B).

Instrument Reliability and Validity

Garrity did not provide any reliability data for the Social and Psychological Status of Myocardial Infarction Patients during Recovery Questionnaire. However, his article reported factoral validity for the questionnaire by providing the following intercorrelation data in Table 1 (Garrity, 1973a):

Table 1. Intercorrelation Data for the Social and Psychological Status of Myocardial Infarction Patients During Recovery Questionnaire.**

		I	IIA	IIB	III
I	Health Perception		0.33*	0.01	0.62*
II	Social Functioning (structured)			0.06	0.12
IIA	Social Functioning (unstructured)				0.04
III	Morale				

*p <0.01:N=56
** Garrity (1973a, p.201)

"Structured" social functioning in Table 1 referred to the respondent's participation in structured activities, including work, community association, and volunteer work. "Unstructured" social functioning included sleeping, working on hobbies, sitting around doing nothing, reading, watching television, and visiting friends and relatives.

For the Close Attachments Scale (Mitchell, 1979), no reliability coefficients were reported; however, Mitchell (1979) did cite results comparable to Wellman's (1973) on the number of intimates (mean=4.43) listed by respondents (n=51) on the Close Attachments Scale. In the same study, Mitchell (1979) reported a correlation of .62 ($p \leq .002$) between the number of intimates the respondents reported themselves as having and the number of close friends that family members reported the respondent as having.

Protection of Human Rights

Informed consent was dealt with in a letter, sent to all potential respondents, which explained the purpose of the study and described the instruments. The letter included assurance of confidentiality, and a request for voluntary participation. A follow-up telephone call, explained in the letter (Appendix A), was made to all potential respondents to determine their agreement to participate. Informed consent was inferred upon verbal telephone consent to participate in the study, and an interview date and time was then set.

Before beginning each interview, this researcher again explained the purpose of the study as described in the letter. Respondents were then read a Statement of Rights (Appendix B), which included an explanation of complete confidentiality, voluntary participation, and informed consent. A copy of the Statement of Rights was left with all respondents after the interviews.

Respondents were also made aware of the fact that researcher administration of the instruments made total anonymity impossible. They

were informed that if any of the instrument questions made them uncomfortable, they were free not to answer and they could completely discontinue their participation at any time if they so chose.

In addition, the requirements for the protection of human rights were met prior to the implementation of the study. Approval for the study was granted by the Human Subjects Review Committee, Great Falls Extended Campus, College of Nursing, Montana State University.

Pilot Study

A pilot study was conducted to evaluate the amount of time required to complete the questionnaire package, the order in which the instruments should be presented for completion, and the clarity of instructions for instrument completion. The pilot study sample was obtained in the same manner described for the sample selection, but differed from the sample utilized for the study in the pilot respondents resided in a small town (population 10,000) approximately 100 miles from the area in which the study was conducted. Four out of five respondents agreed to participate in the pilot study; all of them had had coronary artery bypass surgery at the same facility as the study sample.

The Study Evaluation Tool (Appendix E), designed by this researcher to obtain the evaluation data listed, was administered to the pilot study respondents after completion of the questionnaire package. The results were as follows: (1) completion of the questionnaire package varied in time from 45 minutes to one hour and 15 minutes; (2) the order in which the instruments were presented was satisfactory (demographic data sheet, revised Social and Psychological Status of Myocardial

Infarction patients during Recovery Questionnaire, Close Attachments Scale); and (3) two of the four pilot study respondents did not understand the directions for the instrument estimating their health and activity since heart surgery in Garrity's (1972) Social and Psychological Status of Myocardial Infarction Patients during Recovery Questionnaire as revised by this researcher. These two respondents described "difficulty estimating on the ladders" (point ladders for health perception, morale, social functioning, and preoccupation with health). Based on the pilot study results, additional verbal repetition of the instructions for the point ladder portions of the instrument were given to all study respondents.

Data Collection

Each potential respondent was sent a letter explaining the purpose of the study and a request for voluntary participation (Appendix A). A follow-up telephone call was then made to each of these individuals and, upon consent to participate, a time, date, and place for administration of the questionnaire package was set. All 20 of the interviews were conducted in the respondent's home, and 11 of the respondents had spouses either present or close by during the interviews.

Personal administration of the questionnaire package was chosen for the study to clarify questions respondents had regarding the study or instruments, and facilitate return rate (Polit & Hungler, 1983). Prior to beginning completion of each questionnaire package, the purpose of the study and the basic structure of the instruments were explained, and the Statement of Rights was read to each respondent. As with the pilot

study, completion of the questionnaire package took 45 minutes to one and one-half hours. All of the respondents were told that they would be notified by postcard upon completion of the study, and it would be available to them at any of the Montana State University Extended Campus Libraries for them to read if they so chose.

CHAPTER FOUR

RESULTS

Introduction

The findings of the study are presented in six main sections of this chapter. First a description of the sample is presented, followed by the results of the health perception measure analysis. The data findings for morale are presented next, followed by social functioning analysis, and then preoccupation with health data analysis. Last, the findings from the social support measure analysis are presented. Data were analyzed with descriptive statistical procedures including ranges, frequencies, percentages, mean, standard deviation, and variance. The percentages for frequency distributions are presented in order to facilitate comparisons of frequency distributions of unequal sizes (Kviz & Knofl, 1980).

The Sample

A total of 29 people met the study sample requirements, and of that group, 20 agreed to participate in the study. The length of time since surgery for the sample ranged from 3.75 months to 12 months with a mean of 7.8 months (Table 2).

Table 2. Length of Time Since Surgery in Months (N=20).

Length of Time Since Surgery	Frequency	Percentage
3.25 to 6 months	8	40%
6.25 to 9 months	4	20%
9.25 to 12 months	8	40%

All of the participants had surgery at the same facility.

The sample consisted of 17 (85%) males, and three (15%) females, all of whom were Caucasian. The age range was from 40 to 77; the mean age was 59.55. There was a fairly even age distribution across all categories (Table 3). The majority of the respondents had a high school education, four (20%) had less than that, and seven (35%) had more advanced education.

Table 3. Age Distribution for Respondents (N=20).

Age	Frequency	Percentages
40 to 50 years	5	(25%)
51 to 60 years	5	(25%)
61 to 70 years	7	(35%)
71 to 80 years	3	(15%)

Mean=59.55
Std. Dev.=10.8

Occupation was ascertained by an open-ended question on the demographic data instrument and then was grouped for data analysis. Eight (40%) of the respondents were retired, and two were unemployed but planned to return to work in the future. The remaining ten included three professionals (counselors, consultant), two in the retail business (own small business, clerk), two laborers (construction), and one keypunch operator, one part-time bookkeeper, and one full-time student. All of the respondents currently employed were doing the same work as they did preoperatively.

Nineteen (95%) of the respondents lived within the city limits. The remaining one lived twenty miles out of the city, although close to a small town (population less than 1,000). Twelve (60%) of the respondents had lived in their present place of residence for 11 years or longer, five (25%) for six to ten years, and three (15%) for one to five years.

Table 4 lists the previous and/or chronic illnesses of the sample. Seventeen (85%) of the respondents reported a previous and/or chronic illness while three (15%) listed no prior illness. Four of the respondents listed two chronic illnesses, one with ulcers and hypertension, and three with previous myocardial infarction and hypertension.

Table 4. Respondent's Previous and Chronic Illnesses (N=20).

Illness	Frequency
None	3
Glaucoma	1
Hiatal Hernia	1
Ulcers	1**
Hypertension	8*,**
Renal Failure (chronic)	1
Myocardial Infarction	8*
Coronary Artery Bypass Surgery	1

* 3 listed hypertension and myocardial infarction.
** 1 listed hypertension and ulcers.

Health Perception

Description of the health perception variable included three measures: (1) psychophysiological disability scale; (2) assessment of the heart condition; and (3) overall measure of health status at the present, just before heart surgery, at the time of hospital discharge, a projection of health status six months from now, and a comparison with the health of the average man of the same age (Garrity, 1972). Descriptions of the three health perception measures follow in the same sequence as they are listed above.

For the first measure, psychophysiological disability, the limits for scoring were zero up to 38. The higher the score, the higher the degree of psychophysiological disability. This study's scores varied from one to 16 (Table 5), with a mean of 6.4, and a standard deviation from the mean of 3.71. The frequency distribution and a variance of 13.41 demonstrate the dispersion of the scores.

Table 5. Psychopathophysiological Disability, Frequency Distribution, Mean, Standard Deviation, and Variance (N=20).

Value (Score)	Frequency	Percentage
1	1	5%
2	3	15%
3	1	5%
4	2	10%
6	1	5%
7	6	30%
8	3	15%
9	1	5%
13	1	5%
16	1	5%

Mean=6.4
Std. Dev.=3.71
Variance=13.14

The respondents' assessments of their heart conditions represented the second health perception measure. For this measure, the scores could range from one to three with 1 as "poor," 2 as "fair," and 3 as "good" (Garrity,1972). Eighteen of the respondents assessed their heart condition as good, 2 (10%) as fair, and none of the respondents assessed their heart condition as poor. The mean for assessment of heart condition was 2.4, the standard deviation .30, and the variance was .09.

Table 6 shows the data analysis for the third health perception measure which was the respondents' overall assessment of their health status at four different times (the present, just before heart surgery, at hospital discharge, a projection of six months from now), and the comparison with the average man of the same age. The health assessment

scale was designed so that a score of zero (0) represented the "poorest health" and nine (9) the "best health" the respondent could have (Garrity, 1972).

Table 6. Assessment of Overall Health Status Frequency Distribution, Mean, Standard Deviation, and Variance (N=20).

Value	At the Present f(%)	Before Heart Surgery f(%)	At Time of Discharge f(%)	Six Mos. from Now f(%)	Comparison with Avg. Man of Same Age f(%)
(Poorest health)					
0		1(5%)	1(5%)		
1		2(10%)			
2	1(5%)	3(15%)	4(20%)	1(5%)	
3		1(5%)	4(20%)		
4		1(5%)	1(5%)		2(10%)
5	2(10%)	1(5%)	2(10%)	1(5%)	7(35%)
6	3(15%)	3(15%)	1(5%)		5(25%)
7	6(30%)	3(15%)	3(15%)	4(20%)	5(25%)
8	1(5%)	2(10%)	3(15%)	2(10%)	
9 (Best health)	7(30%)	3(15%)	1(5%)	12(60%)	1(5%)
Mean	7.15	5.1	4.7	7.95	5.85
Std. Dev.	1.84	2.98	2.63	1.79	1.22
Variance	3.22	8.49	6.61	3.04	1.42

The highest modes for Table 6 were for value number 9 at the present time (7), value number 9 for six months from now (12), and for value number 5 in comparison with the average man of the same age (7).

These three categories also had the highest means and the lowest variances. The two remaining categories, before heart surgery, and at the time of discharge, had a fairly even distribution across all scores demonstrated by variance of 8.49 and 6.61 respectively.

Morale

To obtain a numerical score for the respondent's overall level of morale, respondents were asked to rate their level of morale on a ten-point scale with zero (0) as "saddest" and nine (9) as "happiest" at the present time, just before heart surgery, at the time of hospital discharge, a projection of six months from now, and a comparison with the morale of the "average" man the same age as the respondent (Garrity, 1972). Table 7 shows the frequency distribution, mean, standard deviation, and variance for those scales.

Table 7. Morale Frequency Distribution, Mean, Standard Deviation, and Variance (N=20).

Value	At the Present f(%)	Before Heart Surgery f(%)	At Time of Discharge f(%)	Six Mos. from Now f(%)	Comparison with Avg. Man of Same Age f(%)
(Saddest) 0		1(5%)	2(10%)		
1					
2	1(5%)	1(5%)	2(10%)		
3	1(5%)	1(5%)	1(5%)	1(5%)	
4		2(10%)	1(5%)		
5	2(10%)	6(30%)	6(30%)	1(5%)	9(45%)
6	1(5%)	1(5%)	2(10%)		2(10%)
7	4(20%)	2(10%)		4(20%)	4(20%)
8	3(15%)	3(15%)		3(15%)	4(20%)
9 (Happiest)	8(40%)	3(15%)	6(30%)	11(55%)	
Mean	7.25	5.7	5.35	7.95	6.05
Std. Dev.	2.09	2.45	2.97	1.60	1.31
Variance	4.18	5.71	8.42	2.44	1.64

For Table 7, the highest modes were in the following categories: at the present time value number 9 (happiest) had a mode of 8; for six months from now value number 9 had a mode of 11; and for comparison with the average man of the same age value number 5 had a mode of 9. These three categories had the highest means of all categories, of 7.25, 7.95, and 6.05 respectively. Before heart surgery responses were distributed across all values. There was a mode of 6 for value number 5, and a variance of 5.71. Responses for at the time of discharge also had a

high variance of 8.42, and a mode of 6 for score number 5 and score number 9 (happiest).

Social Functioning

Social functioning was described in terms of five measures: (1) comparisons of pre-surgical involvement and current involvement in nine activity areas including sleeping, working, watching TV/listening to radio, reading, working on hobbies, church activities, volunteer work, and visiting friends and relatives; (2) current employment status; (3) comparison of present income to preoperative income; (4) activity level at the present, just before heart surgery, at the time of hospital discharge, a projection of six months from now, and comparison with the "average man of the same age"; and (5) social life at the present time, just before heart surgery, at the time of hospital discharge, a projection of social life six months from now, and a comparison of the respondent's social life with that of the "average" man of the same age (Garrity, 1972). Descriptions of these five social functioning measures follow in the same sequence as they are listed above.

Table 8 demonstrates the frequency distribution, mean, standard deviation, and variance for respondents' comparisons of pre-surgical involvement with present involvement for amount of time spent sleeping, working, watching TV/listening to radio, reading, sitting around doing nothing, working on hobbies, church activities, volunteer work, and visiting friends and relatives.

Table 8. Social Functioning: Respondent Comparisons of Preoperative Activity Participation with Current Activity Participation Frequency, Distribution, Mean, Standard Deviation, and Variance (N=20).

	f(%)	f(%)	f(%)	f(%)	f(%)	f(%)	f(%)	f(%)	f(%)
Value	Sleeping	Working	Watching TV/Listen-to Radio	Reading	Sitting Around Doing Nothing	Hobbies	Church	Volunteer	Visiting Friends and Relatives
1-Less	2(10%)	2(10%)	4(20%)		3(15%)	5(25%)	2(10%)	1(5%)	1(5%)
2-Same	14(70%)	15(75%)	15(75%)	17(85%)	13(65%)	12(60%)	16(80%)	18(90%)	16(80%)
3-More	4(20%)	3(15%)	1(5%)	3(15%)	4(20%)	3(15%)	2(10%)	1(5%)	3(15%)
Mean	2.10	2.05	1.85	2.15	2.05	1.90	2.00	2.00	2.10
Std. Dev.	.55	.51	.48	.36	.60	.64	.45	.32	.44
Variance	.29	.24	.22	.12	.34	.39	.20	.10	.19

Participants indicated whether they were spending less, the same, or more time in each activity. The largest frequency of responses was for the same amount of time spent preoperatively as was spent currently involved in all nine activity areas. The lowest frequency of responses was for less time spent in the nine activity areas, with frequencies varying from one (5%) for visiting friends and relatives to five (25%) for working on hobbies. No one indicated spending less time reading. Responses of more time spent in all nine activity areas ranged from one (5%) for volunteer work to four (20%) for sleeping and sitting around doing nothing.

The second social functioning measure, current employment status, was described earlier in the chapter sample description section. The third social functioning measure, comparison of present income to preoperative income, is reflected in Table 9. Comparison of present income to preoperative income consisted of the respondent's determination of whether his/her income had dropped a lot, dropped a little, stayed about the same, gone up a little, or gone up a lot (Garrity, 1972).

Table 9. Respondents' Comparison of Present Income to Preoperative Income (N=20).

Income Status	Frequency	Percentage
Dropped a lot	1	5%
Dropped a little	2	10%
Stayed about the same	13	65%
Gone up a little	3	15%
Gone up a lot	1	5%

The majority of respondents (n=13) (65%) said their current income was "about the same' as preoperative income, one (5%) respondent's income "dropped a lot," and two (10%) said their income "dropped a little." Of the remaining 20% of the sample, three (15%) respondents said their income had "gone up a little," and one (5%) respondent's income had "gone up a lot." The one respondent who reported income as having dropped a lot noted the drop as anticipated because he had carried out a planned retirement.

Data analysis for the fourth social functioning measure, activity level at the present, just before heart surgery, at the time of hospital discharge, projected six months from now, and a comparison with the average man of the same age are shown in Table 10. The respondents were asked to rate their activity levels for the five categories listed above on a ten-point scale with "doing no activities" as zero (0) on the scale, and "doing all activities" as nine (9) (Garrity, 1972).

Table 10. Assessment of Activity Level Frequency Distribution, Mean, Standard Deviation, and Variance (N=20).

Value	At the Present f(%)	Before Heart Surgery f(%)	At Time of Discharge f(%)	Six Mos. from Now f(%)	Comparison with Avg. Man of Same Age f(%)
(Doing no activities) 0		1(5%)	2(10%)		
1		2(10%)	4(20%)		
2		1(5%)	6(30%)		
3	1(5%)	3(15%)	1(5%)	1(5%)	
4	1(5%)	2(10%)	4(20%)		
5	6(30%)	1(5%)	2(10%)	2(10%)	7(35%)
6	2(10%)	1(5%)	1(5%)	1(5%)	3(15%)
7	2(10%)	1(5%)		2(10%)	6(30%)
8	1(5%)	2(10%)		3(15%)	2(10%)
9 (Doing all activities)	7(35%)	6(30%)		11(55%)	2(10%)
Mean	6.70	5.45	2.55	7.80	6.45
Std. Dev.	2.02	3.20	1.73	1.76	1.35
Variance	3.91	9.74	2.84	2.96	1.74

The high modes in Table 10 were for value number 9 (doing all activities) at the present time (7), value number 9 for six months from now (11), and for value number 5 in comparison with the average man of the same age (7). These three categories had the highest means in Table 10. Scores for the before heart surgery category had the largest variance of 9.74, and a mode of 6 for value number 9. The lowest mean of all categories was at the time of discharge (2.55). This category also had a low variance of 2.84 and a mode of 6 for score number 2.

The data analysis for the last social functioning measure, the respondent's rating of his/her social life, are depicted in Table 11. The rating scale numbered from zero to nine with zero (0) representing "no social life at all" and nine (9) representing the "most active social life" the respondent could have at the present time, just before heart surgery, at the time of discharge from the hospital, a projection of social life six months from now, and a comparison with the social life of the average man the same age as the respondent (Garrity, 1972).

Table 11. Assessment of Social Life Frequency Distribution, Mean, Standard Deviation, and Variance (N=20).

Value	At the Present f(%)	Before Heart Surgery f(%)	At Time of Discharge f(%)	Six Mos. from Now f(%)	Comparison with Avg. Man of Same Age f(%)
(No social life at all) 0		1(5%)	5(5%)		
1	1(5%)	1(5%)	2(10%)		
2	2(10%)	2(10%)	3(15%)		
3	1(5%)	3(15%)	2(10%)		
4		2(10%)	3(15%)	1(5%)	
5	4(20%)	3(15%)	4(20%)	5(25%)	7(35%)
6	5(25%)	2(10%)			1(5%)
7	1(5%)	2(10%)		4(20%)	6(30%)
8	1(5%)	1(5%)		2(10%)	6(30%)
9 (Most active social life)	5(25%)	3(15%)	1(5%)	8(40%)	
Mean	5.90	4.90	2.75	7.25	6.55
Std. Dev.	2.51	2.71	2.40	1.80	1.27
Variance	5.99	6.99	5.48	3.08	1.54

The two high modes for Table 11 were 8 for value number 9 (most active social life) six months from now; and 7 for value number 5 in comparison with the average man of the same age. These two categories had the highest means of all categories of 7.25, and 6.55, respectively. The next highest mean (5.9) was for the present time, followed by the mean of 4.9 for before heart surgery. Distributions were fairly even across all values for these two categories, demonstrated by the variance of 5.99 for the present time, and 6.99 before heart surgery. The lowest mean in Table 11 was 2.75 at the time of discharge, and the distribution of scores for this category was reflected by a variance of 5.48.

Preoccupation with Health

For a numerical score on the preoccupation with health measure, respondents were asked to rate their level of worry about their health on a seven-point scale, with (1) as "not worried at all" and seven (7) as "very worried" at the present time, just before heart surgery, at the time of hospital discharge, on a comparison with the average man of the same age, and a rating for family's worry about respondent's health (Garrity, 1972). Table 12 shows the frequency distribution, mean, standard deviation, and variance for each of the preoccupation with health scales.

Table 12. Preoccupation with Health Frequency Distribution, Mean, Standard Deviation, and Variance (N=20).

Value	At the Present f(%)	Before Heart Surgery f(%)	At Time of Discharge f(%)	Six Mos. from Now f(%)	Comparison with Avg. Man of Same Age f(%)
(Not worried at all)					
1	12(60%)	8(40%)	10(50%)		4(20%)
2	5(25%)	3(15%)	3(15%)		4(20%)
3	3(15%)	1(5%)	3(15%)	5(25%)	4(20%)
4		4(20%)	1(5%)	9(45%)	2(10%)
5		2(10%)	1(10%)	5(25%)	2(10%)
6		1(5%)	1(5%)	1(5%)	2(10%)
7 (Very worried)		1(5%)			2(10%)
Mean	1.55	2.80	2.25	4.10	3.40
Std. Dev.	.75	1.93	1.61	.19	2.01
Variance	.54	3.56	2.48	.69	3.84

For the scores in Table 12, the three of the highest modes were 12 for value number 1 (not worked at all) at the present time; ten for value number 1 at the time of discharge; and eight for value number 1 before heart surgery. These three categories had the lowest means for all of the categories. The greatest variance of scores for the preoccupation with health measure were 3.84 for family worry about respondent's health, and 2.48 at the time of discharge. Comparison with the average man of the same age had the highest mean of 4.1, and a mode of nine on value number 4.

Table 13 presents a summary of the means for the overall health status, morale, activity level, social life, and preoccupation with health measures.

Table 13. Means for Overall Health Status, Morale, Activity Level, Social Life, and Preoccupation with Health (N=20).

Value	At the Present f(%)	Before Heart Surgery f(%)	At Time of Discharge f(%)	Six Mos. from Now f(%)	Comparison with Avg. Man of Same Age f(%)
Overall Health Status	7.15	5.10	4.70	7.95	5.85
Morale	7.25	5.70	5.35	7.95	6.05
Activity Level	6.70	5.45	2.55	7.80	6.45
Social Life	5.90	4.90	2.75	7.25	6.55
Preoccupation with Health*	1.55	2.80	2.25	**	4.10

* For the preoccupation with health measure, the low score (1) indicated "not worried at all," so the low score is the more desirable. This is the opposite of the other four scales where the high score is the most desirable.
** There was no measure for six months from now for this category. Instead, respondents were asked to rate their family worry about the respondent's health, and the mean for that category was 3.4

Social Support

Measurement of social support was accomplished by utilization of Mitchell's (1979) Close Attachments Scale. Respondents were asked to rate the material assistance, emotional support, companionship, and information received from and provided to them by the individuals with whom the respondents felt "closest to" (Mitchell, 1979). The score was

determined by a three-point scale with 1 as "not at all," 2 as "somewhat," and 3 as "very much" for each content category. The numerical scores for each respondent were summarized across all four of the content categories, giving each respondent a total score representing the support received from and provided to the individuals with whom the respondent felt closest (Mitchell, 1979).

The means for the total amount of support received from and provided to the respondents from all sources were then calculated, along with the means for support received from and provided to family members, and support received from and provided to peers. These data are presented in Table 14.

Table 14. Mean and Standard Deviation for Social Support Received from and Provided to All Sources, Family Members and Peers (N=20).

Category	Frequency	Mean	Standard Deviation	Range
All Sources Support Received	20	2.67	.38	1-3
All Sources Support Provided	20	2.51	.39	1-3
Family Support Received	19*	2.78	.32	1-3
Family Support Provided	19*	2.56	.39	1-3
Peers Support Received	14**	2.19	.89	1-3
Peers Support Provided	14**	2.13	.83	1-3

* The respondent who listed no family members as intimates listed six intimates (individuals whom the respondent felt "closest to"), all of whom were peers, so this score was excluded from calculations for the average support received from and provided to family members (Mitchell, 1979).

** The other six respondents who listed no peers as intimates listed six intimates overall, all of whom were family members, so these scores were excluded from calculations for the average support received from and provided to peers (Mitchell, 1979).

The average support received from all sources had a mean of 2.67, from family a mean of 2.78, and from peers a mean of 2.19. The standard deviation from the mean for support received from all sources was .38, for support received from family was .32, and for support received from peers was .89.

The mean score for support provided to all sources was 2.51, to family was 2.56, and to peers was 2.13. The standard deviation for average support provided to all sources was .39, for family was .39, and for peers was .83.

The second component of the Close Attachments Scale (Mitchell, 1979) was demographic data about the respondents' social support system. The data describe the demographic characteristics of the individuals with whom the respondents felt "closest to," including number, relationship, length of time known by the respondent, age, occupation, frequency of contact, and the context of recruitment. Added to the demographic data by this researcher was the distance in miles from the respondent's home to the intimate's home.

The mean number of intimates listed per respondent was 5.7 with family members listed as intimates per respondent 4.25, and the peers listed as intimates per respondent 1.45 (Table 15).

Table 15. Mean and Standard Deviation for Number of Intimates Listed per Respondent, Family Member Intimates per Respondent, and Peer Intimates per Respondent.

Category	Frequency	Mean	Standard Deviation	Range
Number of Respondents	20	5.70	.57	1-6
Family Member Intimates	19*	4.25	1.77	1-6
Peer Intimates	10*	1.45	1.84	1-6

* There was one respondent who listed no family members as intimates.
** There were ten respondents who listed no peers as intimates.

The number of intimates listed by all of the respondents totals 114; four respondents listed fewer than six intimates (20 respondents x maximum of six intimates = 120 possible intimates). One respondent did not wish to list the demographic data about the intimates named, so the

total number of intimates included in the following frequency tables equals 109. Tables 16 through 21 represent the rest of the analysis for the social support demographic data.

Table 16 describes the length of time the respondents have known the intimates they listed as feeling "close to."

Table 16. Length of Time Intimates (N=109) were Known by Respondents.

Time in Years	Frequency
0 - 5	9
6 - 10	11
11 - 20	17
21 - 31	21
31 - 40	29
41 - 50	16
51 - 60	4
61 - 70	1
71 - 80	1

The range was from less than one year to 73 years. The most frequently occurring response (n=29) for the length of time the respondents had known their intimates, was from 31 to 40 years, with 21 to 30 years being the next most frequently occurring response (n=21).

The age range of respondents' intimates is listed in Table 17.

Table 17. Age Range of Respondents' Intimates (N=109).

Time in Years	Frequency
1 - 10	1
11 - 20	10
21 - 30	15
31 - 40	40
41 - 50	21
51 - 60	21
61 - 70	13
71 - 80	4

The age category of 31 to 40 years had the highest frequency of responses (n=24), followed by categories 41 to 50 years and 51 to 60 years, both having frequencies of 21.

The occupational groups of the respondents' intimates are listed in Table 18.

Table 18. Occupational Groups of Respondents' Intimates (N=109).

Occupation	Frequency
Retired	16
Homemaker	16
Teacher	9
Professional *	12
Business & Retail	22
Laborers	22
Public Service **	3
Students ***	9

* Professionals consisted of three bankers, three attorneys, two secretaries, one nurse, one chef, one physician, and one counselor.

** Public Service consisted of one serviceman, one policeman, and one fireman.

*** Students consisted of three college students, three high school students, and three grade school students.

The occupational groups having the greatest frequency of responses were business and retail (n=22), and laborers (n=22), followed by homemakers (n=16), and retirees (n=16). The lowest frequency of responses for intimates' occupations were for public service (n=3), teachers (n=9), and students (n=0).

Table 19 lists the frequency of contact the respondents had with their intimates. Contact refers to verbal contact: "How often do you talk with this person?" (Mitchell, 1979).

Table 19. Respondents' Frequency of Contact with Intimates (N=109).

Frequency of Contact	Frequency
Daily	32
3-4 times/week	5
1-2 times/week	32
1-3 times/month	33
4-7 times/year	7

The most frequent contact was made one to three times per month (n=33), followed by daily contact (n=32), and contact one to two times per week (n=5). The lowest frequency of responses was for contact three to four times per week (n=5).

The context of recruitment, or how the respondent first met the intimate (Mitchell, 1979), is described in Table 20.

Table 20. Context of Recruitment (N=109).

Context of Recruitment	Frequency
Work	14
Church	5
Bar	1
Dance	2
Blind Date	3
High School	3
Family Member *	64
Through Family	11
Through Friend	1
Neighbor	4
Bowling	1
Apartment Manager	1
Campaigning	3
Beauty Shop	1

* Family members consisted of father, niece, mother, sister-in-law, son, grandson, daughter, granddaughter, sister, brother, brother-in-law, and mother-in-law.

Family members (n=64) had the highest frequency of responses for context of recruitment, followed by work (n=14), and then through family (n=11). The remainder of categories had frequencies from one to five.

The distance in miles from the respondent's home to the intimate's homes was an addition to the Close Attachment Scale (Mitchell, 1979) by this researcher, and was not a part of Mitchell's original instrument. The frequencies for the distances are presented in Table 21.

Table 21. Respondent's Distance in Miles from Intimates (N=109).

Distance in Miles	Frequency
Same House	23
Less than .5	6
.5 - 10	37
11 - 50	2
51 - 100	8
101 - 200	8
201 - 300	6
301 - 400	0
401 - 500	2
501 - 600	3
500 - 1000	7
1001 - 1500	6
Greater than 1500	1

The distance category of .5 to ten miles from the respondent's home to the intimate's home had the largest number of responses (n=37). The second largest frequency of responses was for the same house (n=23), and the remainder of the responses had frequencies from one to eight.

In summary, the social support data analysis included mean calculations for support received from and provided to all sources, family members, and peers, and demographic data which described the individuals the respondents listed as intimates. The highest means for support provided and received were from family members, and the majority of intimates listed per respondent were family. Most respondents had known their intimates for several years, lived in the same area as their intimates, and had contact with them at least once per week.

The qualification and description of health perception, morale, social functioning, preoccupation with health, and social support for the sample of 20 postoperative coronary artery bypass graft surgery patients was presented in this chapter. Data were analyzed with descriptive statistical procedures including means, standard deviations, variance, and frequency distribution. The results of the data analysis demonstrated the sample population to have fairly positive health perceptions, high morale, and activity levels of at least as high as preoperative activity levels. In addition, the sample demonstrated low preoccupation with their health and positive social support scores.

CHAPTER FIVE

DISCUSSION

The purpose of this study was to describe and quantify the health perception, morale, social functioning, preoccupation with health, and social support of the patient sample three months to one year after coronary artery bypass graft surgery (CABGS). Findings from the data analysis were presented in chapter four and are discussed in this chapter. Conclusions are presented, study limitations are discussed and are followed by implications of the study and recommendations for further research.

Conclusions

Conclusions derived from the data analysis findings address the sample, and the five variables investigated for the study: health perception, morale, social functioning, preoccupation with health, and social support data.

All three health perception measures indicated the study respondents held overall positive health perceptions. The scores on the psychophysiological disability measure were generally low, with 90 percent of the respondents indicating that their hearts were in good condition. Accordingly, the majority of the respondents rated themselves as being in good health at the present, predicted themselves to be in even better health on the six-month projection, and most saw their

own health as better than the average man of the same age. These findings were somewhat more positive than anticipated but were similar in comparison with those of LaMendola and Pelligrini (1979).

According to Garrity's (1973a) findings with post myocardial infarction patients, the strongest predictor of morale among his sample was the respondent's health perceptions. Data were not analyzed for relationships between the variables in this study, but the findings of fairly high morale were not surprising in view of the positive health perception scores. Forty percent of the respondents rated their present morale as the highest it could be, and 55 percent said their morale would be the highest it could be six months from now. Respondents also had slightly higher mean scores for their own morale at the present time and six months from now than they rated the morale of the average man of the same age to be. As anticipated, morale scores were lower just before heart surgery and at the time of hospital discharge.

The results from the five social functioning measures were also more positive than expected based on review of the literature and professional experiences.

Surprisely, 20 percent of the respondents spent less time watching TV/listening to the radio currently than preoperatively, and 25 percent spent less time currently working on hobbies than preoperatively. Compared with preoperative activity, more time was spent currently working for 15 percent of the sample, and visiting friends and relatives for 15 percent of the sample. It is apparent that the surgery did not limit vocational or avocational activity for the respondents.

Twenty percent of the sample reported spending more time sleeping at the present than before the operation. This is considered a positive finding in that many heart patients have difficulty getting sleep. The conclusion drawn is that these respondents felt comfortable enough to sleep.

The last two social functioning measures, social life and activity level, had similar distributions as the morale measure. Both scales demonstrated fairly positive responses in activity level and social life at the present time, and increases in positive scores for the future projection categories. The positive scores for activity level and social life, coupled with the 50% unemployment rate adds credence to LaMendola and Pelligrini's (1979) and Wilson-Barnett's (1981) call for assessing all activities of postoperative CABGS patients, not just employment status.

The majority of the respondents (60%) described themselves as not worried at all about their health at the present time and believed the "average man" to be more preoccupied with health than the respondents were. These findings contrasted with those of Ramshaw and Stanley (1981); who found that 28.3 percent of their samples had concerns about physical symptoms and bodily functions. Respondents in this study did report their family members to be more preoccupied with the respondent's health than they were themselves. As anticipated, respondents reported being more preoccupied with their own health just before heart surgery and at the time of discharge than at the present.

The last variable analyzed in the study was social support. The mean scores for the social support measure were fairly high, with

support received from family having the highest mean. Accordingly, the majority of respondents listed family members as intimates who lived within the same area and whom they saw fairly frequently. These findings demonstrated very family-oriented social support systems.

The respondents in the present study also rated themselves as capable of providing social support to those individuals with whom they felt close. This finding suggests reciprocal relationships with intimates. Mitchell (1979) noted that individuals who have psychiatric problems tend to have fewer reciprocal relationships with their intimates. It then follows that individuals who perceive themselves as active and healthy would also perceive themselves as providers of social support as well as recipients. In light of the positive health perception scores, these social support findings are similar to those of LaMendola and Pelligrini (1979). They found that positive affiliation experiences were related to lower levels of perceived physical limits among post CABGS patients.

For the study sample, the results of the data analysis for all five variables investigated were surprisingly positive. The following paragraphs speculate upon the precipitators of these findings.

The respondents possibly denied and/or rationalized the seriousness of their illness and maintained the perception that they were healed. Thurer et al. (1980-81) had findings as such, in that respondents used denial not only for feelings of apprehension, but were overly optimistic, having unrealistically high estimates of recovery. In addition, Thurer et al. (1980-81) noted that respondents who used a minimum of denial were unable to reduce their fears and required tranquilization;

hence, they concluded that defense mobilization may have an adaptic function for CABGS patients.

The rationalization of the decision to have surgery was also demonstrated by the respondents in the study conducted by Thurer et al. (1980-81). Although respondents reported they had made the right decision by having surgery and the surgery had fulfilled their expectations, a number of respondents were unable to substantiate the value of the surgery, being unable to describe any specific gains. Thurer et al. (1980-81) suggested the rationalization of decision to have surgery may have been necessary to reduce the emotional dissonance between undergoing a life-risking operation for little apparent gain. As pointed out by Thurer et al. (1980-81), both denial and rationalization are defenses that are probably necessary to cope with the fear and anxiety of having CABGS, but the possibility exists that these two defense mechanisms can distort reality for the post CABGS patients. This factor may be at least a partial explanation for the health perception scores in the present study.

Another possible explanation for the study findings was noted in Penkhofer and Holm's (1983) study. Their respondents reported a significant increase in activity postoperatively, as well as increases in satisfaction with family life, social life, and sexual life. Penkhofer and Holm (1983) attributed these positive findings to a reported decrease in angina for respondents and feelings of increased certainty about the future. In terms of the present study findings, for which 80 percent of the respondents reported their hearts to be in good condition, an increase in certainty about the future may have been a factor

in their positive scores, particularly for morale, preoccupation with health, and social support. By believing their hearts to be in good condition, the fear of recurrent cardiac problems may be diminished, which, in turn, could lead to an increased certainty about their future. Respondents may believe they will live longer and have less chance of heart problems after CABGS. These thoughts could well contribute to less preoccupation with health, higher morale, and increased participation in all activities.

And yet another contributing factor to these study results may be Garrity's (1973b) explanation of the significance of health perception. He notes that the patient's actual clinical health status must be translated into the patient's understanding before the patient can use the information for personal decision-making. Garrity further postulates that the patient's perception of his/her health is shaped by personal experiences and biases, and the physician's communications. According to Garrity (1973b), all of these factors contribute to the patient's health perception, and the patient's health perception may be a more significant indicator of rehabilitation outcome than any other psychosocial or medical variable.

If Garrity's hypotheses regarding health perception and its significance in the patient's rehabilitation outcome are correct, then the findings of the present study are understandable. The anticipated outcomes of coronary artery bypass graft surgery are a reduction in angina and anginal symptoms, an improvement in myocardial function, and a resultant increase in activity (vocational and avocational). Because the anticipated outcome is positive, the patient's health perception is

influenced in the positive direction by physician's and family's expectations of improvement. The patient's postoperative experiences reinforce the positive health perception as the patient's activity level is no longer prohibited by anginal symptoms. At last, but not least, if the patient's health perception is positive, then high morale, active social functioning, including receiving and providing social support, and a minimum of preoccupation with health would be expected in terms of psychosocial outcomes after CABGS.

For the majority of the respondents in this study, the results were positive. They perceived themselves to be healthy, happy, active, not worried about their health, and to have positive, reciprocal social support systems. In addition to these findings, those respondents with less than positive responses need to be considered.

Five to twenty percent of the respondents who reported less healthy perceptions had lower morale and were less active socially and avocationally than the average man of the same age. Forty percent of the respondents reported their families to be quite worried about the respondent's health, and those respondents who listed no family as intimates had lower perceived social support scores. According to the literature reviewed, these respondents would be at higher risk for recurrent problems, both physical and psychosocial, and professional intervention is indicated. Intervention efforts need to be directed toward physical rehabilitation, education about the disease process, and enhancement of the social support resources. These types of interventions have particular implications for professional nursing care.

The implications for such nursing care with high risk patients are discussed following the study limitations.

Limitations of the Study

1. The reliability and validity of the instruments utilized for measurement are minimal for coronary artery bypass patients. In addition, subjective biases of the researcher may have influenced the respondent's answers to instrument items.
2. The sampled group of patients was not selected randomly, and, therefore, may not have been typical of the CABGS patient population for the variables that were measured.
3. The sample size was small, again leading to questionable generalizability of the results.
4. The retrospective study design relied on the respondent's memory of the past events, and these memories may not have been an accurate representation of those events.

Implications

Based on the study of findings, the implications for professional nursing care of coronary artery bypass graft surgery (CABGS) patients are fourfold: (1) preoperative assessment of the CABGS patient's health perceptions, activity levels, and social support resources; (2) promotion of positive health perception via encouragement and reinforcement of the objectives of CABGS; (3) temperament of the patient's perceptions with realism via education about coronary artery disease (CAD) and the

rehabilitation process; (4) provision of emotional support, and education about CAD and the rehabilitation process to patients' families.

Preoperative assessment of the patient's health perceptions, activity levels, and social support resources would yield data required to identify those patients who are at higher risk for postoperative problems. The patient's health perceptions play a major role in shaping rehabilitation outcome, and if they are less than optimal, intervention could be directed toward improving them. Clancy, Wey, and Guinn (1984) noted that perceptions are a variable over which the patient has some control, and that they can be measured pre- and postoperatively and are changeable. Misperceptions can be readily identified by preoperative assessment and individualized educational programs can be designed to correct them. Penkhofer and Holm (1984) also noted that how patients perceive their quality of life during the postoperative period can assist the nurse in preparing the patients and their families for discharge.

Preoperative assessment of the CABGS patient's vocational and avocational activity levels would provide additional data necessary for development of discharge plans. Wilson-Barnett (1981) found that patients who had poor records of employment or activity levels preoperatively were at high risk for these same problems postoperatively. For those patients identified to be a high risk for activity level problems, discharge plans and education should include clear and precise guidelines that the patients can follow until they are able to make judgments about their capabilities (Brown, 1981). In addition, cardiac rehabilitation exercise programs would be beneficial to patients with

activity level problems. Progressive monitored exercise has been shown to help the patients overcome feelings of disability and increase confidence and self-esteem (Marshall, 1985).

Lack of social support has also been identified as a factor predisposing CABGS patients to problems with recovery (Wilson-Barnett, 1981). For CABGS patients who are lacking social support resources, interventions must be directed at enhancing the support system. This could be done in a variety of ways: introduction to a Mended Hearts or other support group; introduction to other CABGS patients; and close home care nursing following-up after discharge.

Findings from social support data analysis for this study indicated heavy reliance on family members for social support. Sikorski (1985) noted the needs of CABGS patients' families are very important in the care of CABGS patients, and that interaction with spouses may influence optimal functioning postoperatively. The families of CABGS patients experience fear and apprehension (Brown, Glazer, & Higgins, 1983) during the preoperative, operative, and postoperative periods. These findings point out the families' need for increased support and education during the pre- and postoperative periods.

Recommendations

The first recommendation for future research of health perception, morale, social functioning, preoccupation with health, and social support among CABGS patients is to repeat this study with a larger, randomly selected sample, and analyze data descriptively and for correlation between the variables. Garrity's (1972, 1973a, & 1973b) findings

indicated significant relationships between health perception and morale, social functioning, and preoccupation with health. Repeat study with correlation analysis is needed to determine if these relationships hold true with CABGS patients.

Based on review of the literature, the final recommendation for further research with these variables would be for standardization of measurement instruments which would increase generalizability and aid in planning interventions and rehabilitation programs. Although study findings tended to be similar in the areas of health perception, social functioning, and social support, these variables were measured with a variety of instruments.

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APPENDICES

APPENDIX A

LETTER TO POTENTIAL RESPONDENTS

Dear

I am a graduate student at Montana State University working towards a Master's Degree in Nursing. I know that you have had coronary artery bypass surgery because I obtained your name from your cardiologist after explaining my interest in doing research about the emotional support and assistance bypass patients receive from those people close to them during their first year after surgery.

For my thesis, I would like to personally interview individuals who have had coronary artery bypass surgery. The interview will consist of completion of two questionnaires regarding your general health, social activity, and emotional support and assistance. It will take approximately one and one half hours to complete, and can be done in your home.

This letter is sent as a request for your voluntary participation in my study. If at any time during the interview you wish to stop, or decide that you do not want to continue participating, you are free to do so. Your participation will be completely voluntary. All answers to the questions will remain confidential. The answers will be analyzed for the entire group of participants, and individuals will not be identified. The results of the study will be available to health professionals and individuals participating when it is completed. Upon completion, the study will be available in the MSU Library.

I will be telephoning all the people who were sent a copy of this letter from March 21, 1983 to March 28, 1983, to determine willingness to be interviewed for the study. If you have any questions regarding the study or the interviews, please feel free to call me at home (453-4926) collect, or write to me at the address below.

Your cooperation will be greatly appreciated.

Cynthia A. Ceynar
Montana State University
Graduate Student
3217 11th Avenue South, Apt. #3
Great Falls, Montana 59405

APPENDIX B

STATEMENT OF RIGHTS

STATEMENT OF RIGHTS

The guidelines for government supported research with human subjects require that all participants be informed of their rights. These rights include:

1. Complete Confidentiality, all data will be analyzed for the entire population, and no individuals will be identified. Confidentiality will be strictly maintained.
2. Voluntary Participation, individuals will have the right to refuse to participate in the study, or withdraw from the study interviews at any time s/he chooses without prejudice to their future medical care or their status within the university (MSU).
3. Informed Consent, prior to participation, an explanation of the study will be provided, and any questions the participants have about the study will be answered to their satisfaction.

APPENDIX C

LETTERS OF APPROVAL

Cynthia A. Ceynar, R.N.
MSU Graduate Student
3217 11th Avenue South, #3
Great Falls MT 59405
(406) 453-4926

September 29, 1982

Thomas F. Garrity, Ph.D.
Department of Behavioral Science
University of Kentucky
College of Medicine
Lexington KY 40506

Dear Dr. Garrity,

I am a graduate student at Montana State University pursuing a Masters Degree in Nursing. I am interested in doing an exploratory study for my thesis on social support and health perception for individuals who have had coronary artery bypass surgery.

While reviewing the literature and searching for a health perception tool appropriate to the study, I read your Social and Psychological Status of Myocardial Infarction Patients during Recovery Evaluation Questionnaire. This tool would be appropriate for use in my research with the replacement of the terms "heart attack" by the terms "heart surgery" in questions 28, 53, 66, 72, in instructions for the questions 42 through 52, and the deletion of the terms "six months ago" from questions 23, 29, 56, 67, 73, and 79 (sample will be from 3 months to 12 months post-operative).

My letter is a formal request to use your tool for collection of data in my research and make the described adjustments in terminology with all credits and citations properly documented as yours. The adjustments in terminology would be documented as done to fit the purpose of my particular study, so the credit for the origin of the tool would remain yours.

I tentatively plan to begin the pilot study October 15, 1982, so I would greatly appreciate your expedient response to this request. My thesis committee chairperson is Dr. Jacqueline Taylor, Montana State University, Dean of Graduate Studies in Nursing. Dr. Taylor can be reached by phone at (406) 243-6515 or by mail at 616 Eddy Street, MSU Extended Campus, Missoula MT 59812. Please do not hesitate to contact Dr. Taylor or myself if you have any questions or comments regarding my research.

Permission Granted 10/4/82
Thomas F. Garrity
Good Luck!

Sincerely,

Cynthia A. Ceynar, R.N.

Enclosure

SOCIAL ECOLOGY LABORATORY

STANFORD UNIVERSITY SCHOOL OF MEDICINE, TD-114
STANFORD, CALIFORNIA 94305 • (415) 858-3996

October 28, 1982

Cynthia A. Ceynar, R.N.
3217 11th Avenue South, #3
Great Falls, Montana 59405

Dear Ms. Ceynar:

You have my permission to use social network tools described in my dissertation as long as the source is cited. I wish you good luck with your project. Feel free to contact me if you think I can be of help.

Sincerely,

Roger E. Mitchell

Roger E. Mitchell, Ph.D.

REM:tp

APPENDIX D

INSTRUMENTS

Health Information

Please tell us which of the following problems you have had in the past month, and how often you have experienced them. For each problem circle 0, 1, or 2 depending on how often each has happened.

		never	a few times	often
1.	poor appetite	0	1	2
2.	stomach upset	0	1	2
3.	headache	0	1	2
4.	trouble sleeping	0	1	2
5.	hands damp and sweaty	0	1	2
6.	hands tremble	0	1	2
7.	cold sweats	0	1	2
8.	dizziness	0	1	2
9.	fainting	0	1	2
10.	nervousness	0	1	2
11.	take medicine other than prescribed	0	1	2
12.	feel weak all over	0	1	2
13.	feel restless, can't sit long in a chair	0	1	2
14.	bothered by a sour stomach	0	1	2
15.	had trouble remembering things	0	1	2
16.	feel hot all over	0	1	2
17.	periods of days when can't get going	0	1	2
18.	sinus trouble	0	1	2
19.	back trouble	0	1	2

Circle the answer to the following questions which applies to you.

During the past month, did you ever experience shortness of breath?
0 - never (if never, skip the next question)
1 - sometimes
2 - often

20. Under what conditions did you usually become short of breath?
1 - with heavy exertion
2 - with light exertion
3 - while resting
4 - other: _____

During the past month, did you ever notice your heart beating hard?
0 - never (if never, skip the next question)
1 - sometimes
2 - often

21. Under what conditions did you usually notice your heart beating hard?
1 - with heavy exertion
2 - with light exertion
3 - while resting
4 - other: _____

During the past month, did you ever have chest pains?
0 - never (if never, skip the next question)
1 - sometimes
2 - often

22. Under what conditions did you usually have chest pain?
1 - with heavy exertion
2 - with light exertion
3 - while resting
4 - other: _____

23. Have you been re-hospitalized for heart attacks since your surgery?
0 - no
1 - yes . . . How many times?

24. How many times have you been hospitalized with heart attacks in all? _____ times

25. From what your doctor has said and done, what sort of condition would you say your heart must be in? (If not sure, please try to estimate.)
1 - poor condition
2 - fair condition
3 - good condition

26. How often have you been seeing a doctor about your heart since you left the hospital?

0 - never	4 - once a month
1 - once	5 - twice a month
2 - twice	6 - three times a month
3 - three times	7 - weekly or more

Below is a picture of a ladder. Suppose we say that the top of the ladder represents perfect health, and the bottom represents the most serious illness.

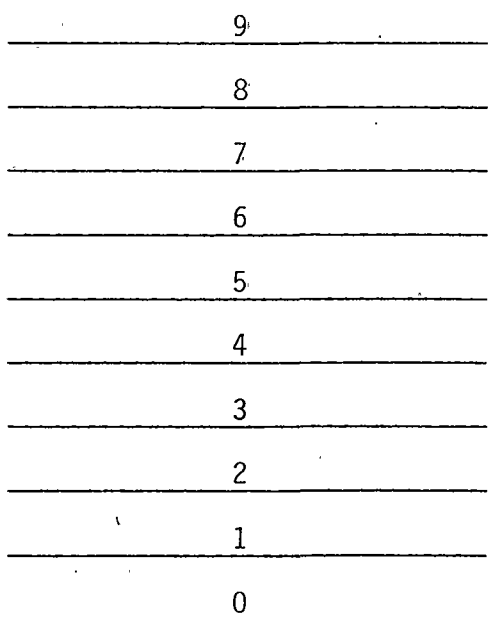
27. On which step would you say your health is right now? _____ (Please write down the number of the step.)

28. On which step would you say your health was just before your heart surgery? _____

29. On which step would you say your health was about the time you were discharged from the hospital? _____

30. On which step would you say your health will be 6 months from now? _____

31. On which step would you say the health of the average man your age is? _____ (Please try to answer these even if they are "educated guesses.")



32. Have you begun to have any serious new health problems since you left the hospital?
    0 - no
    1 - yes What are they?

Activities Information

In an average day, how many hours are you now spending in each of the following? Please write down the number of hours spent in each activity.

33. _____ hours a day, sleeping

34. _____ hours a day, working (for pay)

35. _____ hours a day, watching TV, listening to radio and records

36. _____ hours a day, reading newspapers, magazines, and books for pleasure

37. _____ hours a day, just sitting around doing nothing, taking it easy

In an average week, how many hours are you now spending in each of the following? Please write down the number of hours spent in each activity.

38. _____ hours a week, working on hobbies (gardening, building, fishing, walking, etc.)

39. _____ hours a week, attending church and other meetings

40. _____ hours a week, doing volunteer work for church, and other organizations

41. _____ hours a week, visiting and telephoning friends and relatives

When you compare the amount of time you spend now in various activities, with the amount you spent before your surgery, tell us if you are now spending more, less, or about the same amount of time on the following activities as before your surgery. Circle the choice that applies to you.

		less time now than before the surgery	about the same	more time now than before surgery
42.	sleeping time	less	same	more
43.	working time (for pay)	less	same	more

		less time now than before the surgery	about the same	more time now than before surgery
44.	watching TV, listening to radio, records	less	same	more
45.	reading newspapers, magazines, books	less	same	more
46.	sitting around doing nothing, taking it easy	less	same	more
47.	working on hobbies	less	same	more
48.	attending church and other meetings	less	same	more
49.	doing volunteer work	less	same	more
50.	visiting, telephoning friends and relatives	less	same	more

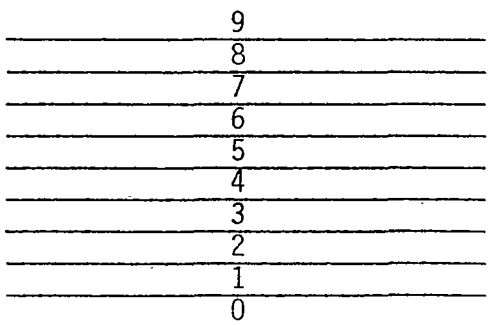
51. Do you have a job now?
    0 - no (if no, answer "a" below)
    1 - yes (if yes, answer "b" below)

    a) Do you think you will return to work in the future?
    0 - no
    1 - yes

52. b) Is this the same work you did before your hospitalization?
    0 - no, If no, what sort of work is it? _____
    1 - yes

53. When you compare your present income to your income before your heart surgery, has your income
    0 - dropped a lot?
    1 - dropped a little?
    2 - stayed about the same?
    3 - gone up a little?
    4 - gone up a lot?

Below is a picture of a ladder. Suppose we say that the top of the ladder represents doing all the activities that you enjoy and want to do, and the bottom represents doing none of these activities.



54. On which step would you say your activity level is right now? _____

55. On which step would you say your activity level was just before surgery? _____

56. On which step would you say your activity level was about the time you were discharged from the hospital? _____

57. On which step would you say your activity level will be 6 months from now? _____

58. On which step would you say the activity level of the average man your age is? _____ (Please try to answer these with "educated guesses")

59. About how many times a month do you visit or get visits from relatives? _____ (Please write the number of times in the blank.)

60. About how many times a week do you talk on the phone with relatives? _____

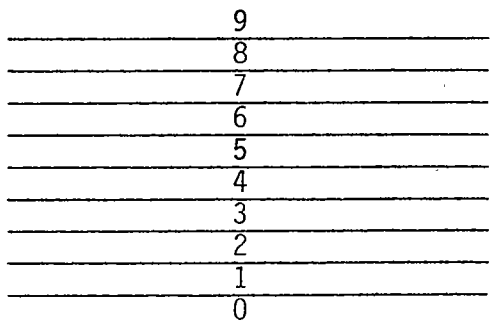
61. About how many times a month do you visit or get visits from friends and neighbors? _____

62. About how many times a week do you talk on the phone with friends and neighbors? _____

63. How many times a month do you attend religious services? _____

64. About how many times a month do you attend meetings of groups such as clubs, unions, and associations? _____

Below is a picture of a ladder. Suppose we say that the top of the ladder represents the most active social life for you, and the bottom represents having no social life at all. The top is when you see all your friends and relatives very often, and the bottom is when you don't see any friends and relatives at all.



65. On which step would you say your social life is right now? _____

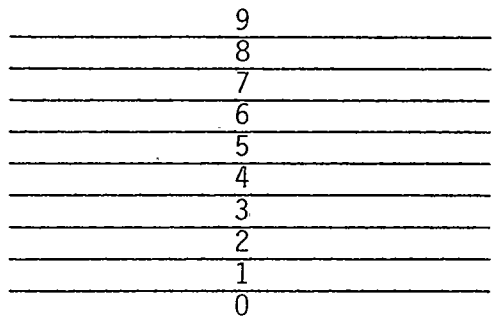
66. On which step would you say your social life was just before your surgery? _____

67. On which step would you say your social life was about the time you were discharged from the hospital? _____

68. On which step would you say your social life will be 6 months from now? _____

69. On which step would you say the social life of the average man your age is? _____ (Please try to answer with "educated guesses.")

70. Below is a picture of a ladder. Suppose we say that the top of the ladder represents the happiest you can be, and the bottom represents the saddest you can be.



71. On which step would you say your morale is right now? _____

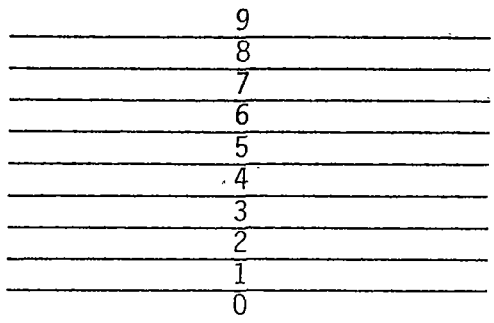
72. On which step would you say your morale was just before your surgery? _____

73. On which step would you say your morale was about the time you were discharged from the hospital? _____

74. On which step would you say your morale will be 6 months from now? _____

75. On which step would you say the morale of the average man your age is? _____ (Please try to answer with "educated guesses.")

76. Below is a picture of a ladder. Suppose we say that the top of the ladder represents the most worried you can be about your health, and the bottom represents having no worry about health at all.



77. How worried are you about your health right now? _____

78. How worried were you about your health just before your surgery?
_____

79. How worried were you about your health at about the time you were discharged from the hospital? _____

80. How worried is the average man your age about his health? _____

81. How worried is your family now about your health? _____
(Please answer with "educated guesses.")

B. Close Attachments

Now we'd like to ask some questions about the people who are closest to you. Could you give me the initials or the first names of the people who are most important to you, or whom you feel closest?

Initials of Contact	Sex	Relationship Is this person a relative, neighbor, friend, etc.	Length How long have you known this person?	Age How old is this person?	Occupation What does this person do for a living?	Contact How often do you talk with this person?	Context of Recruitment How did you first meet this person?	Distance from your home
1.								
2.								
3.								
4.								
5.								
6.								

Provides Material Assistance												
a. Is this someone who gives you help when you need it (e.g., when you are sick, moving, need a loan, etc.)? b. Does this person ask you for help when he/she needs it (e.g., if he/she is sick, moving, needs a loan, etc.)?				a. Is this someone who will listen to you when you're feeling down? b. Does this person ask you to listen when he/she is feeling down?				a. Is this person someone you can be with when you want to have fun and enjoy yourself? b. Does this person come and see you when he/she wants to have fund and enjoy him/herself?				a. Is this someone who tells you about things good to go, or places where you can get help if you need it)? b. Does this person ask you for information about things good to know about?			
	a		b		a		b		a		b		a		b	
1.	1	2 3	1 2 3		1	2 3	1 2 3		1	2 3	1 2 3		1	2 3	1 2 3	
2.	1	2 3	1 2 3		1	2 3	1 2 3		1	2 3	1 2 3		1	2 3	1 2 3	
3.	1	2 3	1 2 3		1	2 3	1 2 3		1	2 3	1 2 3		1	2 3	1 2 3	
4.	1	2 3	1 2 3		1	2 3	1 2 3		1	2 3	1 2 3		1	2 3	1 2 3	
5.	1	2 3	1 2 3		1	2 3	1 2 3		1	2 3	1 2 3		1	2 3	1 2 3	
6.	1	2 3	1 2 3		1	2 3	1 2 3		1	2 3	1 2 3		1	2 3	1 2 3	

1 = not at all; 2 = somewhat; 3 = very much

DEMOGRAPHIC DATA

Code # _____

Date _____

Age _____

Sex _____

Occupation _____

Place of Birth _____

Marital Status: Please check one.

( ) married
( ) separated
( ) divorced
( ) widowed
( ) single

Number of Dependents _____

Educational Status: Please circle highest grade completed.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Place of Residence: Please check one.

( ) Farm or Ranch
( ) In town

How long have you lived in your present area? Please check one.

( ) less than a year
( ) 1 - 5 years
( ) 6 - 10 years
( ) 11 or more years

Where did you grow up? Please check one.

( ) Farm or Ranch
( ) In town

If in town, what was the population? Please check one.

( ) less than 1,000
( ) 1,000 - 5,000
( ) 6,000 - 10,000
( ) 11,000 - 20,000
( ) 21,000 - 50,000
( ) greater than 50,000

Date of open heart surgery: _____

Have you ever had a heart attack(s)?

( ) yes
( ) no

If yes, when? _____

Please list any present or chronic illnesses. _____

_____

APPENDIX E

STUDY EVALUATION TOOL

STUDY EVALUATION TOOL

1. Did you understand the directions for the questionnaire about those people close to you?

   ( ) yes ( ) no

   If not, please explain what you did not understand.

2. Did you understand the directions for the questionnaire about your health and activity since your heart surgery?

   ( ) yes ( ) no

   If not, please explain what you did not understand.

3. Was the order in which the questionnaires were presented satisfactory?

   ( ) yes ( ) no

   If not, please explain how the order could be more satisfactory.

4. Was the length of time it took to complete the questionnaire satisfactory?

   ( ) yes ( ) no

   If not, please explain how the time it took to complete the questionnaires could be more satisfactory.