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SEXUAL ADJUSTMENT AFTER MYOCARDIAL INFARCTION

by
Brenda Hove Long

B. S., Medical College of Virginia, 1968

Thesis

submitted in partial fulfillment of the requirements for the

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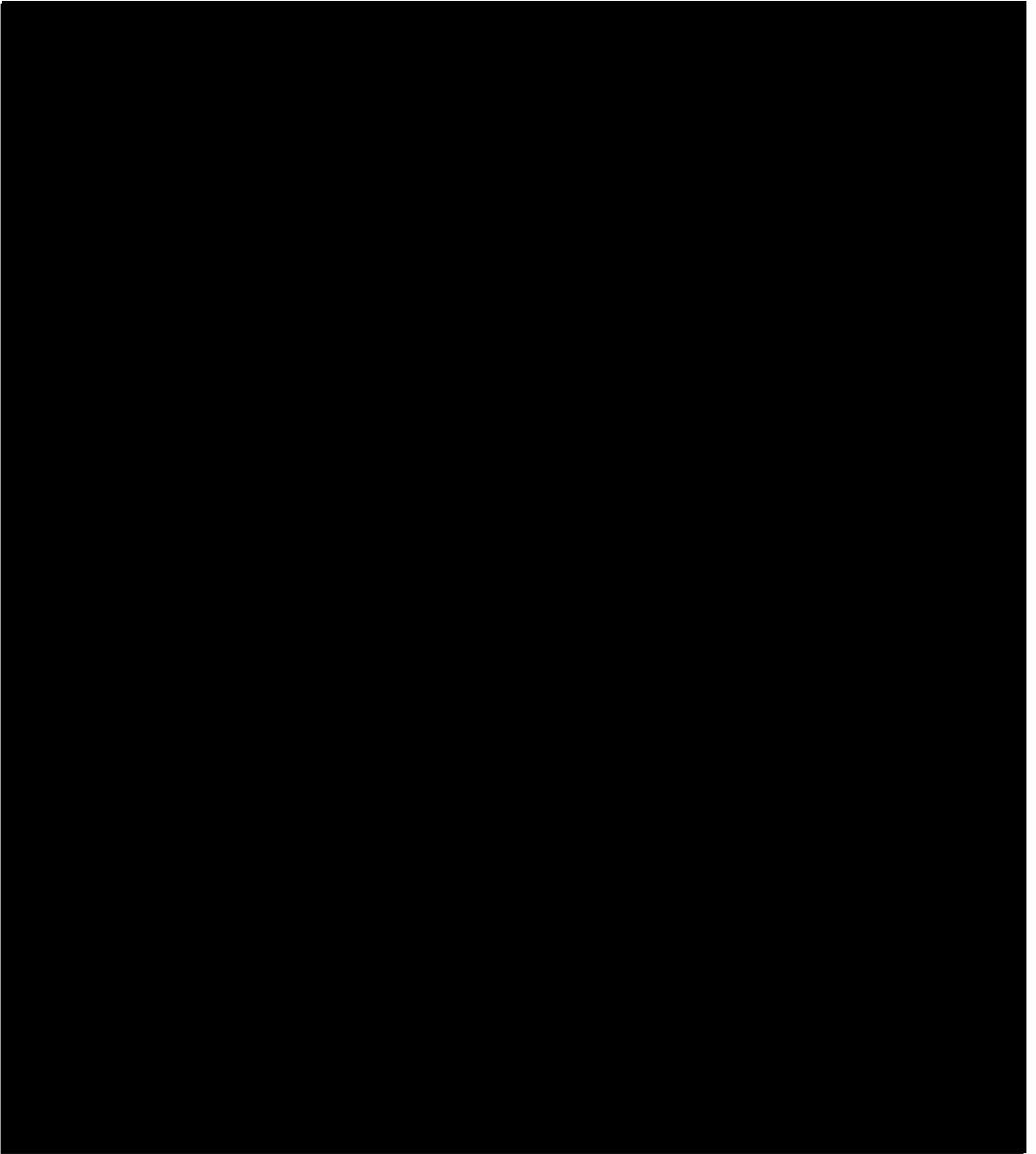
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CHAPTER I
INTRODUCTION

"Cardiovascular diseases claim more American lives than all other causes of death combined,"¹ as stated in the American Heart Association's Heart Facts 1975. In 1972, it was estimated that 1,036,560 individuals died of cardiovascular disease; 683,100 of these were attributable to acute myocardial infarction.² In addition, an estimated 28,420,000 Americans have some type of cardiovascular disease at a cost of \$20 billion annually.³ The figures "bring home" a stalking reality; cardiovascular disease is epidemic in this country, the incidence and ramifications of which make it an ever-present threat to all Americans. The greatest threat is heart attack, tragically bearing the distinction of "the nation's number 1 killer."⁴

Since it is estimated that 3,940,000 Americans have some history of angina pectoris or myocardial infarction,⁵ the problems associated with readjustment to living following myocardial infarction are of great concern to many, foremost to the victims themselves

¹1975 Heart Facts (New York: American Heart Association, 1974), p.12.

²Ibid. ³Ibid. ⁴Ibid., p.13. ⁵Ibid.

and their families. Among these adjustment problems are fear of pain and death, anxiety, and depression. Change in life-style may be necessary in the areas of diet, activity, job, and family rights and responsibilities.

In the realm of family rights, one of the most haunting concerns and one which surfaces early, but is so often not verbalized is, "What about sex? What kind of a husband(wife) can I be now? Isn't it true that a heart attack ends your sex life?"

The subject of sex makes patients with myocardial infarction uneasy in seeking information; the subject is also anxiety-provoking for health team members who are responsible for patient information and counseling. There are a variety of factors that may explain why sex is a sensitive subject.

First, there are factors related to the patient. Most patients in the coronary age range 45-60 are children of late Victorian parentage who were raised to believe that sex is a darkened-room, closed-mouthed subject. Then, too, many patients place "blind faith" in their physicians, their belief being, "anything I need to know, he'll tell me." Another factor is suggested by Green in an excellent review of literature on "Sexual Activity and the Postmyocardial Infarction Patient." He states, "hesitancy to ask for a physician's advice [regarding sexual activity] is also common because of their

[the patients'] fear of sexual restrictions."¹

Further factors make clear why the subject of sex is dreaded by physicians and nurses. First, there is a paucity of hard research findings that provide a basis for counseling patients regarding resumption of sexual activity after myocardial infarction. Green states, "a scarcity of material exists with regard to their sexual rehabilitation."² Koller and others point out that "specific guidelines about sexual adjustment are scarce in the literature on cardiovascular dysfunction."³ Hellerstein and Friedman observe, "in a review of 33 cardiologic textbooks, we found a grand total of less than 1,000 words referring to sexual activity and heart disease."⁴

Lack of literature as a basis for counseling is not the only problem confronting the health team members. Their sexual naivete dates back to their basic educational programs. Hellerstein and Friedman state: "Medical education has been particularly lacking in the clinical treatment of sexual or marital problems of

¹Andrew W. Green, "Sexual Activity and the Postmyocardial Infarction Patient," American Heart Journal 89 (February 1975): p. 246.

²Ibid.

³Reuben Koller et. al., "Counseling the Coronary Patient on Sexual Activity," Postgraduate Medicine 51 (April 1972): p. 133.

⁴Herman K. Hellerstein and Ernest H. Friedman, "Sexual Activity and the Postcoronary Patient," Medical Aspects of Human Sexuality 3 (March 1969): p. 71.

the cardiac subject.¹ Their observations are further supported by findings of Howard,² and Elder.³

Lacking a basic foundation for discussing sex with patients is not the isolated cause of physician-nurse uneasiness. A further problem, noted widely in the literature, is best summarized by Elder: "Nurses and doctors feel insecure about their sexuality, and to cope with this insecurity, they either avoid counseling situations or counsel with decreased sensitivity, objectivity, and empathy to patients' needs."⁴

The interplay of all the above factors usually adds up to inadequate management of patients' sexual problems and concerns. "Most physicians simply give general advice, shifting the ultimate decisions to their patients. This is hard for the patient who is looking for strict rules to follow."⁵ Physicians react to their own uncertainty in 2 ways--" conservatism or avoidance of the problem."⁶

¹Ibid., p. 70.

²Robert B. Howard, "Medical Practice and Human Sexuality," Postgraduate Medicine 55 (June 1974): p. 25.

³Mary Scovill-Elder, "Nurse Counseling on Sexuality," Nursing Outlook 18 (November 1970): p. 38.

⁴Ibid.

⁵Green, p. 247.

⁶Robert F. Klein, et al., "The Physician and Postmyocardial Infarction Invalidism," The Journal of the American Medical Association 194 (October 1965): p. 127.

As Green observes, "the former approach restricts activities while the latter results in no discussion or ambiguous responses such as 'do what you feel like doing.' Both situations lead to a decreased sexual activity which may be physiologically unwarranted and psychologically detrimental."¹

With such a source of concern and confusion among patients and health team alike, the need is for research that will provide factual data upon which to base information. A survey of the literature reveals a relatively small number of studies related to sexual activity and the patient with a myocardial infarction. Perhaps the best and most quoted study is that of Hellerstein and Friedman.² Others include studies by Tuttle,³ Klein,⁴ Singh et al.,⁵ and Bloch et al.⁶ It is sad to note that a majority of the nursing literature related to this problem is "cookbook style," based on literature review by

¹Green, p.247.

²Hellerstein and Friedman, pp. 70-96.

³William B. Tuttle, W. Leigh Cook, and Edna Fitch, "Sexual Behavior in Postmyocardial Infarction Patients," The American Journal of Cardiology 13 (January 1964): p.140.

⁴Klein et al., pp. 123-138.

⁵Jasbir Singh et al., "Sex Life and Psychiatric Problems After Myocardial Infarction," Journal of the Association of Physicians of India 18 (May 1970): pp. 503-507.

⁶Antoine Bloch, Jeanne-Pierre Maeder, and Jean Claude Haissly, "Sexual Problems After Myocardial Infarction," American Heart Journal 90 (October 1975): pp. 536-537.

the authors.^{1, 2, 3, 4, 5, 6, 7, 8} This material provides guidelines for identifying and coping with patients' sexual reactions to illness. Perhaps the most comprehensive of these "cookbooks" is Wood's Human Sexuality in Health and Illness, published in 1975.⁹ Only 1 study done by a nurse is known, this being a physiologic study on the cardiopulmonary effects of sexual intercourse.¹⁰

The literature provides data on the incidence of patients' return to sexual activity after myocardial infarction. Literature also

¹Elder, pp. 38-40.

²Ruth Wilcox, "Counseling Patients About Sex Problems," Nursing '73 3 (November 1973): pp. 44-46.

³Linbania Jacobson, "Illness and Human Sexuality," Nursing Outlook 22 (January 1974): pp. 50-53.

⁴Marian T. Krizinofski, "Human Sexuality and Nursing Practice," Nursing Clinics of North America 8 (December 1973): pp. 673-681.

⁵Betty Lawson, "Easing the Sexual Fears of the Cardiac Patient," RN 37 (April 1974): pp. ICU 1-2, 5.

⁶Marianne Zalar, "Human Sexuality: A Component of Total Patient Care," Nursing Digest 3 (November-December 1975): pp. 40-43.

⁷Sharon Golub, "How Nurses Reply to Questions About Sex," RN 30 (September 1967): pp. 41-45, 96.

⁸Idem, "When Your Patient's Problem Involves Sex," RN 38 (March 1975): pp. 27-31.

⁹Mary Fugate Woods, Human Sexuality in Health and Illness (St. Louis: The C. V. Mosby Company, 1975): pp. 3-219 passim.

¹⁰Eleanor D. Rhodes, "Blood Pressure and Heart Rate Responses During Sexual Activity" (Masters Thesis, University of Washington, 1974): pp. 1-55.

presents material on problems with adjustment to activity, reasons for lack of return to sexual activities, and presence or absence of guidelines given to patients and their partners regarding resumption of sexual activity. A few studies examine selected physiologic aspects of sexual intercourse. However, nowhere is there a study which synthesizes these factors and examines them in the light of patient input regarding what information patients really feel they need and from what resources. Neither is there any material that clearly endeavors to relate patient problems or lack of them as a direct result of information or lack of same.

Caring for numerous patients with myocardial infarction during the acute and progressive phases of their recuperation resulted in a variety of observations by this investigator. These observations included: male patients behaving in a flirtatious manner toward nursing staff, patients' direct questions or concerns regarding sex "now that I've had a heart attack," and patient complaints that, "The doctor avoids my questions about sex." Further observations included staff confusion concerning what information to provide to patients and an instance of an unintended nurse seduction of a male patient when the nurse attempted to provide information regarding sex to the patient.

As a result of such experiences, the following questions arose: Can these patients successfully resume sexual activity? What problems do they have when sexual activity is resumed? How long

should patients wait from the time of the infarction until resumption of sexual activity? What kinds of information do these patients need and from whom in order to feel prepared to resume sexual intercourse?

Neither a survey of nursing literature nor a superficial survey of the medical literature at the time provided sufficient information in order to answer these questions. Therefore, the idea of this study was conceived with a 2-fold objective:

1. To answer the questions which had arisen.
2. To identify implications for patient instruction.

Purposes

The purposes of this investigation are:

1. To determine the types of problems that patients experience concerning sexual activity after myocardial infarction.
2. To determine if a relationship exists between these problems and the information regarding sexual activity which is provided to patients prior to discharge from the hospital.
3. To determine the influence of the problems on the patients' decisions concerning sexual activity.
4. To determine if patients receive information regarding other components of rehabilitation more often than information regarding sexual activity.
5. To determine if the problems affecting sexual activity also

influence other activities of daily living.

6. If postmyocardial infarction problems interfering with sexual activity and activities of daily living occur, to determine if they existed prior to infarction or developed as a result of the infarction.

7. To determine if age is a factor in sexual adjustment of patients after myocardial infarction.

8. To determine what information the patients and their partners believe they need regarding sexual activity.

9. To identify who patients believe should impart the information.

10. To identify implications for patient instruction.

Definition of Terms

To assure understanding of the material presented in this study, the following terms must be defined:

Problem-any deviation from the patient's definition of well-being, physical or psychological, which the patient perceives as interfering with resumption of activities of daily living, including sexual activity.

Sexual Activity-any intimacies shared between 2 individuals which they define as satisfying their sexual needs and desires.

Sexual Adjustment-the postmyocardial infarction patient's report of average behavior in the area of sexual activity as he defines it post-illness.

Myocardial Infarction-any cardiovascular symptomatology

resulting in hospitalization with a subsequent documented medical diagnosis of myocardial infarction.

Information-the amount and type of material that a patient desires to know in order to be able to resume sexual activity; it is also the data regarding sexual activity that is considered to be sufficiently important to be included in discharge instructions.

Hypotheses

This study will test the following hypotheses:

1. There are specific, common problems which coronary patients experience in adjusting sexually following myocardial infarction.
2. Patients with myocardial infarctions will experience no problems resuming sexual activity if, prior to discharge, they receive information regarding resumption of sexual activity.
3. More patients will report receiving less information regarding sexual activity than information in any other area of rehabilitation.
4. Problems during sexual activity reported by postmyocardial infarction patients will interfere with their activities of daily living less than with sexual activity.
5. If there are problems associated with sexual activity reported by patients as interfering with sexual activity and activities of daily living, these will neither have been present before infarction nor have interfered with preinfarction sexual activity and activities

of daily living.

6. Age will not be a factor in resumption of sexual activity.

7. Patients will have definite ideas of what information is necessary in order to adjust sexually.

8. Patients will think that the same information provided to them should be provided to their partners.

9. Patients will prefer that health professionals, physicians and/or nurses, provide the information regarding resumption of sexual activity.

Assumptions

In conducting this study, the following assumptions will be made:

1. Adjustment problems can be identified.

2. Patients will respond frankly to all questions in the questionnaire, recognizing that responses will be based on the patients' recall ability.

Limitations

There are limitations with regard to this study:

1. The population included patients with myocardial infarction cared for by 55 internists.

2. The population to whom questionnaires were mailed was only as complete as the data provided by the coronary care unit log book

from which the population was selected.

3. Only 1 complete year of logs could be obtained from which to draw the population.

4. The data collection tool was self-designed specifically for this study; hence, it has not been tested for concurrent validity or reliability. It has content validity as determined by a cardiologist and a cardiac clinical nurse specialist.

Delimitations

The investigation included the following delimitations:

1. Questionnaires were sent to all patients who had had at least 1 diagnosed myocardial infarction and who were hospitalized between March 29, 1974 and April 5, 1975 at 1 hospital in a small city in Virginia.

2. Questionnaires were sent to patients of 5 internists, 3 who practice cardiology, 2 practicing internal medicine.

CHAPTER II

REVIEW OF LITERATURE

Introduction

Coronary disease and its manifestation, myocardial infarction, are pathologies that are dreaded in current America. The dread is common to both men and women, but it is predominantly a threat to men. A 1975 publication states, "young women are much less likely to have heart attacks than men. After the menopause, apparently because of hormonal changes, the mortality rate for heart attack in women increases sharply, but never reaches that of men."¹

The incidence of myocardial infarction is linearly related to age, sparing no age group. The great tragedy of heart attack and stroke is that they often strike the young or those in their most productive years. The rate goes up with age; however, 1 in 4 of all heart attack deaths occur under age 65."² More specific statistics demonstrate this fact. 1972 estimates revealed that 28% of all deaths in the age range 35-44 resulted from cardiovascular disease. 40% of 45-54 year olds died of this disease. It killed 48% of 55-64 year olds, 57% of 65-74 year olds, and 69% of persons age 75 and above.³

Sexual Activity: Incidence in Normal Individuals

The sexual dilemma spans the age range of people, ill and well.

¹1975 Heart Facts, p.17. ²Ibid. ³Ibid., p.10.

Studies document a decrease in sexual activity, but maintenance of sexual interest in aging individuals despite associated physical infirmities. One such study, "Sexual Behavior in Senescence: Patterns of Sexual Activity and Interest," supports this premise. It was conducted with patients at Duke University. The study commenced in 1955 with a population of 131 women and 123 men, ages 60-94. The study examined the "effects of age, sex, and marital status on degree, incidence, and patterns of sexual activity and interest."¹

The final results, after follow-up of subjects in 1961 and 1964, revealed:

Age and the degree of sexual activity are not related in a strictly linear fashion. . . . one or more intervening variables exist, probably age-related infirmities or physical illness or both. The incidence of sexual activity declined from a level of more than 50% during the early 60s to a level of 10 to 20% after age 80. The degree of sexual interest was more intimately related to aging than activity. Strong degrees of interest tended to persist into the 80s. In general, the incidence of interest was higher than that of activity. This discrepancy was more prominent in male subjects and it appeared to increase with age.²

These findings support the observation that sexuality is important to most patients regardless of age.³ Patients recovering from myocardial infarction are no exception.

¹Adriaan Verwoerdt, Eric Pfeiffer, and H. S. Wang, "Sexual Behavior in Senescence: II. Patterns of Sexual Activity and Interest," Geriatrics 24 (February 1969): p.137.

²Ibid., pp. 153-154.

³Ibid., pp. 149-154.

Postmyocardial infarction sexuality and sexual activity are multiple faceted issues throughout the rehabilitation period. The purpose of this review of literature will be to identify and explore the aspects of this element of rehabilitation by reviewing both research and non-research material.

Resumption of Sexual Activity After Myocardial Infarction--When Resumed

After myocardial infarction, patients must determine time frames in their lives. They are concerned about when they can become active, perhaps when they can resume work, and when sexual activity can be resumed.

Skelton and Dominian interviewed 65 wives of 74 patients after first myocardial infarction. The interviews were conducted during the spouses' hospitalizations and at 3 months, 6 months, and 12 months following hospitalization. Of the 65 cases, 38 couples were having sexual intercourse prior to the infarction. At 3 months postinfarction, only 8 couples had not resumed sexual activity. Eighteen couples were engaging in sexual intercourse, but to a lesser degree than prior to infarction. Nine couples had resumed premorbid levels of sexual activity. At 1 year, only 3 couples were having no sexual intercourse, while 11 were sexually active, but to a lesser level than prior to infarction. At this time, 19 couples had

resumed premonitory levels of activity.¹ The study, therefore, indicated that most patients resumed sexual intercourse by three months postinfarction.

Tuttle, Cook, and Fitch studied an unspecified number of men in a cardiac work evaluation clinic. The study method for obtaining data was not specified. The time since infarction was from 1 to 9 years. Here, as in Skelton and Dominian's study, the findings indicated that "the interval from myocardial infarction to first sexual intercourse averaged three months."²

A study done by Singh, Singh, Singh, Singh and Malhotra utilized an interview-questionnaire format; they studied 100 patients from a variety of sociocultural groups who had had myocardial infarctions. These patients were divided into 2 groups. In group 1, the time from infarction to inclusion in the study was 6 months to 2 years. The patients in group 2 had infarcted greater than 2 years prior to inclusion in the study.³ The data on resumption of sexual activity was non-specific, stating only that in group 1, 26 (56.6%) patients had resumed sexual intercourse at the time of the study; in group 2 at the time of the study, 43 (95.5%) patients had resumed sexual activity.⁴ This

¹M. Skelton and J. Dominian, "Psychological Stress in Wives of Patients with Myocardial Infarction," British Medical Journal 2 (April 1973): p. 103.

²Tuttle, Cook, and Fitch, p. 140.

³Singh et al., p. 503. ⁴Ibid., p. 504.

study only indicated that patients resumed sexual activity. It did not delineate at what time after infarction sexual intercourse was recommended.

Hellerstein and Friedman's study of sexual activity in postmyocardial infarction patients presented 14 weeks as the average accepted postinfarction time for resumption of sexual activity.¹ In this study, 48 postinfarction patients and 43 coronary-prone individuals were studied by questionnaire, interview, and physiological and psychological tests. One of the purposes of this study was "to evaluate the effects of clinical coronary heart disease on sexual activity."² For the purposes of this discussion, only the postmyocardial infarction group results are applicable. In this group, the interval from infarction to initiation of sexual activity was 13.7 weeks. In the asymptomatic postmyocardial infarction group, the level was 11.7 ± 2.4 weeks. The level for the symptomatic postinfarction group was 16.4 ± 2.6 weeks.³ These researchers point out that the impact of myocardial infarction on frequency of sexual activity is great at 6 months, but is minimal at the end of 1 year post-injury.⁴ They further state,

as in the case of other physical activity, it seems reasonable to forbid sexual intercourse during the first four to six weeks of illness. . . Restrictions on sexual activity should be lifted according to the individual case, usually by the ninth to twelfth week.⁵

¹Hellerstein and Friedman, p. 87. ²Ibid., p. 71.

³Ibid., p. 81. ⁴Ibid. ⁵Ibid., p. 94.

With regard to restrictions, these researchers comment, "the physician should explain the rationale of temporary restrictions of physical activity (including work and sexual) to the patient and his wife, and the capacity of the heart to recover should be stressed."¹

A variety of non-research articles contain recommendations on time of resumption of sexual activity after myocardial infarction. Scherf, professor emeritus of medicine at New York City's New York Medical College, states, "in patients with myocardial infarction, it is suggested to avoid sexual intercourse for 4 months."² Rawlings, a cardiovascular consultant in Chattanooga, Tennessee, advised, "since most myocardial infarctions have been replaced by scar tissue after the sixth to eighth week from onset, sexual activity after this time offers no great problems."³ Massie, professor of clinical medicine at Washington University School of Medicine and director of heart stations at Barnes and Jewish Hospitals in St. Louis, Missouri, reports a time limit that coincides with that of Rawlings: "Sexual intercourse may be resumed in 6 to 8 weeks after the infarction if no subsequent significant anginal pains have occurred."⁴ Proger, professor and chairman, Department of Medicine, Tufts University

¹Ibid.

²"What Do You Tell Postcoronary Patients Regarding Sex Activity?" Medical Aspects of Human Sexuality 2 (November 1968): p. 23.

³Ibid., p. 28. ⁴Ibid., p. 23.

School of Medicine, Boston, sees week 8 as a low limit, giving stronger endorsement to week 12:

On the assumption that, depending upon its size, full healing of an area of myocardial necrosis may require up to eight weeks, it would appear desirable to advise abstention from sexual intercourse for about two months after the onset of an acute coronary episode. During the third month moderate restraint may be recommended; i. e. the frequency, duration, and intensity of sexual intercourse should be kept to a reasonable minimum.¹

Krauthamer, a cardiologist and co-author of The Heart Doctors' Heart Book, says, "most patients are allowed sex six weeks after a heart attack if they want and can tolerate it."² For uncomplicated myocardial infarctions, 4 to 8 weeks after infarction is recommended by Andreoli, a nurse and Educational Director, Physician's Assistant Program, University of Alabama Medical Center.³ Rosenman, associate chief of the Department of Medicine, Mt. Zion Hospital and Medical Center, San Francisco, California, links sex and work. He advises that if sex is work, longer than 9 to 12 weeks should be allowed, depending on "body damage, the conditioning of the patient, and the premyocardial infarction level of sexual activity."⁴

¹Ibid., p. 22.

²Marshall Franklin et al., The Heart Doctors' Heart Book (New York: Grosset & Dunlap, 1974): p. 282.

³Kathleen G. Andreoli et al., Comprehensive Cardiac Care, 4th ed. (St. Louis: The C.V. Mosby Co: 1975) p. 297.

⁴Heart Disease and Sex: Responses to Questions, " Medical Aspects of Human Sexuality 5 (June 1971): p. 28.

Resumption of Other Activity Compared to Sexual Activity After Myocardial Infarction

The generally recommended time for resumption of sexual activity may be compared to other activity including work. Wenger's group questioned 2,491 physicians (857 internists, 787 cardiologists, and 562 general practitioners) via a mailed questionnaire. The caseload for the physicians questioned equaled approximately 70,000 patients.¹ Reports were that the time for returning to work for non-retired patients under age 65 was 2 to 4 months,² these times corresponding on either side of the average time of resumption of sexual activity, that being 3 months.

Dobson, Tattersfield, Adler, and McNicol interviewed 20 patients who survived cardiac arrest. Wives (17) were interviewed separately. Purposes of the interviews were to determine attitudes and long-term adjustment of these patients. Of 18 patients working before myocardial infarction, 7 were at work at 3 months, 14 were working at 6 months, and at 18 months, 16 were at work.³ Contrasted to the average time of resumption of sexual activity--3 months--6 months was the time that a majority of patients resumed work. This study gave no specific

¹Nanette K. Wenger et al., "Uncomplicated Myocardial Infarction," The Journal of the American Medical Association 224 (April 1973): p. 511.

²Ibid., p. 513.

³M. Dobson et al., "Attitudes and Long-term Adjustment of Patients Surviving Cardiac Arrest," British Medical Journal 3 (July 1971): p. 209.

statistic on the time of resumption of sexual activity; however, it stated that 12 patients out of the 17 married patients were having sexual intercourse at the time of interview [time lapse between cardiac arrest and interviews--6-24 months].¹

The methodology of the study by Cay et al. consisted of interviewing patients, reviewing work records, psychological testing, and medical assessment.² With regard to work, statistics showed that 94 (69%) patients were working 4 months after heart attack.³ This figure again exceeds the 3 month average time cited for resumption of sexual intercourse. Other sources provide figures that more closely approximate the 3 month period. Levenson, clinical associate professor of medicine at the University of Washington, recommends return to work after twelve weeks.⁴ Brenton, a sociological author and author of Sex and Your Heart states, "about 80% of patients recovering from myocardial infarction can return to their old jobs often within eight to twelve weeks."⁵

Thus, it seems apparent that the time of resumption of sexual

¹Ibid., p. 211.

²Elizabeth L. Cay et al., "Return to Work After A Heart Attack," Journal of Psychosomatic Research, 17 (July 1973): pp. 231-239.

³Ibid., p. 242.

⁴"A Summary of A Symposium on Counseling the Cardiac on Work and Sex," The Ohio State Medical Journal 66 (October 1970): p. 1004.

⁵Myron Brenton, Sex and Your Heart, (New York: Award Books, 1968): p. 83.

activity and return to work closely coincide with respect to the post-infarction period.

Energy Expenditure in Sexual Activity Compared to Other Activities

A variety of sources compare sexual activity to activities other than work. The comparisons are not in terms of time lapse, but are in terms of comparable energy expenditure.

Koller, Kennedy, Butler, and Wagner of the University of Washington, after reviewing the study by Hellerstein and Friedman, made this observation about heart rate levels during sexual intercourse: "These heart rate responses are similar to those observed in the same individuals during regular daily activity such as driving a car, discussing business or climbing one or two flights of stairs."¹ Koller's group also compares sexual intercourse capability to the ability to walk briskly.²

Similar statements are made by Ray Rosenman, assistant director of the Harold Brunn Institute at San Francisco's Mt. Zion Hospital and Medical Center. "The actual physiologic cost of sexual activity is far less than we once believed. It is about equivalent to that of climbing one flight of stairs at a medium pace or walking briskly."³

¹Koller et al., p. 134. ²Ibid., p. 136.

³"A Summary Of a Symposium on Counseling the Cardiac Patient on Work and Sex," p. 1006.

"Sexual intercourse is like mild to moderate exercise..... if you can climb two flights of stairs, if you can walk three blocks briskly, you can have sex." This is the position of Martin Krauthamer, co-author of The Heart Doctors Heart Book.¹

Naughton, professor of medicine and director of rehabilitation medicine at George Washington University Medical Center, Washington, D. C., compares sex to a leisurely stroll, to climbing a flight of stairs, or to scrubbing a floor.²

Rosenman equates sexual activity to brisk walking or to an energy expenditure of 6 calories per minute.³

Hellerstein endorses a plan of increasing activity. This planning should be preceded by evaluation of tolerance to such normal activities as those around the home. Following this evaluation, Hellerstein then compares work and sex, equating these to a 6 to 8 calorie per minute energy expenditure such as vigorous walking, climbing 1 or 2 flights of stairs, or a Master Two-Step Test.⁴

Hellerstein, in his study of myocardial infarction patients with Friedman, presents his position on energy cost of sexual activity. "The equivalent oxygen cost [of sexual activity] is similar to that of climbing a flight of stairs, walking briskly, or performing ordinary

¹Franklin et al., p. 283.

²"Heart Disease and Sex: Responses to Questions," p. 24.

³Ibid. ⁴Ibid., p. 28.

tasks in many occupations.¹

Thus, the determination of when to resume sexual activity after myocardial infarction has been based on a time span proved by research or on the ability to carry out other activities without problems, problems deemed comparable to the energy cost of coitus.

Problems or Symptoms of Postinfarction Activity and Adjustment and Their Effects on Decisions Regarding Sexual Activity

Once sexual activity is resumed, some patients encounter problems associated with coitus. The questions arise: What are these problems and what are the effects of these problems on continuation of activity?

During the rehabilitation period, the patient who has had a myocardial infarction has many variations or frank changes in life-style to assimilate. Any time one is confronted with changing a way of life he prefers, the transition is not easy.

Change promotes ambivalence. Patients want to live their old way, but they want to return to maximum health by incorporating the recommended changes into their lives. This ambivalence results in problems. The problems may also result from the pathology of the altered health status as well as from the process of change.

Some of the elements of lifestyle that may be varied or at least delayed for the patient with a myocardial infarction are those such as work, leisure activity, and sexual activity. The resumption of these

¹Hellerstein and Friedman, p. 88.

activities are among those most associated with questions and, often, with problems and with variations from premorbid levels.

Bloch, Maeder, and Haissly reported on the evolution of sexual activity of 100 patients after myocardial infarction. For comparison, the mean, preinfarction frequency of sexual intercourse for the 100 patients was 5.2 times monthly. The mean postinfarction frequency of sexual intercourse at 11 months was 2.7 times per month.¹ The investigators compared resumption of sexual activity to resumption of work stating, "the important reduction of sexual activity is especially surprising if we consider the fact that almost all patients had resumed a normal active life. Thus, 89% of the nonretired patients had returned to work."²

The same investigators cited 1 factor responsible for diminution in sexual activity to be age, stating, "the diminution was more marked in older patients, but could be seen in all age groups."³

Patients in this study cited a variety of reasons or problems as explanation for reduction in sexual activity. These included, in decreasing frequency: "decrease in sexual desire, depression, anxiety, wife's decision, fear of relapse or of sudden death, fatigue, angina, and impotence."⁴

A finding in the study by Tuttle, Cook, and Fitch was that 2/3 of the patients they questioned had a lasting reduction in frequency of

¹Bloch, Maeder, and Haissly, p. 536. ²Ibid. ³Ibid. ⁴Ibid.

sexual intercourse. Problems associated with sexual activity included angina (a few patients) and impotence (10%).¹ The investigators stated that fear was a problem; they felt that changes in sexual behavior were related to fear and to misinformation.²

Hellerstein and Friedman reported that 18 (41.9%) patients who were postmyocardial infarction reported symptoms during sexual intercourse.³

Awareness of excessively fast heart action was the most common symptom (13 subjects, 30.2%), and was associated with angina pectoris in four subjects. Nine subjects (20.9%) experienced angina pectoris or its equivalent (pain or tightness in the chest, pain in the arm).⁴

Other problems encountered during sexual adjustment after myocardial infarction were classified by Hellerstein and Friedman as factors accounting for decrease in orgasm. These patients had a decrease in orgasm from 2.1 per week (1 year prior to infarction) to 1.6 per week (1 year postinfarction). The problems associated with decreasing orgasm were:

- | | | |
|-----------------------------|---------|--------------|
| (1) change in sexual desire | (11/48) | |
| (2) wife's decision | (7/48) | |
| (3) feeling of depression | (6/48) | |
| (4) fears | (5/48) | |
| (5) coronary symptoms | (6/48) | |
| (6) impotence | (0) | ⁵ |

It was rare that problems resulted in change in sexual activity once

¹Tuttle, Cook, and Fitch, p. 140. ²Ibid.

³Hellerstein and Friedman, p. 80. ⁴Ibid.

⁵Ibid., p. 81.

resumed. "Five subjects (11.6%) stopped during sexual activity, one because of tachycardia and four because of angina pectoris, associated with tachycardia in two subjects."¹

Weiss et al., in studying emotional factors in 43 patients with myocardial infarctions, identified sexual problems in 21 (49%) patients. These problems were impotence (10), frigidity (2), inadequate outlet (2), total abstinence (2), decreased libido (2), premature ejaculation (1), excessive sex (1), and priapism (1).² These statistics were unclear since there was no distinction of number of males versus females with problems, figures that would have made numbers of patients with specific problems related to sexual gender (i. e. impotence versus frigidity) more meaningful.

In a study of 17 married patients, interviewed at intervals following cardiac arrest, 12 were found to have been sexually active prior to the cardiac episode. Following the episode, 6 of the 12 couples decreased sexual activity. Two stopped sexual intercourse completely. Three patient-spouse pairs reported no change in levels of sexual activity while 1 couple reported an increase in activity.³ Of the 8 (66%) patients who had a negative change in the level of sexual activity, Dobson's group reported the main problematic cause

¹Ibid.

²Edward Weiss et al., "Emotional Factors in Coronary Occlusion," AMA Archives of Internal Medicine 99 (April 1967): p. 635.

³Dobson et al., p. 211.

to be apprehension on the part of the patient and particularly on the part of the spouse about the safety of sexual intercourse. "¹

In this study of 20 patients, 12 were sexually active before myocardial infarction and 10 (83.3%) of these 12 resumed at least some level of sexual activity. The most frequent problem occurring with resumption of sexual activity was apprehension on the part of the patient and the spouse.² By comparison, 18 patients were working before myocardial infarction. Sixteen (88.9%) returned to work. Problems associated with return to work were either related to "physical disability" or anxiety.³

Influence of Pathology on Sexual Activity

Pinderhughes, professor of psychology at Boston University School of Medicine, along with Grace, Reyna, and Anderson emphasizes the influence of pathology on sexual activity. "Nearly any alteration in an individual's physical or emotional state may affect various aspects of his life pattern, including that of sexual activity."⁴

In a study by Singh, Singh, Singh, Singh, and Malhotra, done in India, 2 groups of 50 each were questioned regarding sex life after myocardial infarction. Group I included patients who had infarcted

¹Ibid. ²Ibid. ³Ibid., p. 209.

⁴Pinderhughes et al., "Interrelationships Between Sexual Functioning and Medical Conditions," Medical Aspects of Human Sexuality 6 (October 1972): p. 73.

from 6 months to 2 years prior to the study. Of the 50, 4 patients, all over age 70, reported absence of libido. Of the remaining 46, 20 had not resumed sexual intercourse. Reasons included advice of the physician (9), own decision "as a 'precautionary' measure since they believed that excitement of sexual intercourse would bring on another episode of infarction" (10), and due to chest pain and dyspnea during sexual intercourse (1).¹ Of the 26 sexually active patients in group I, 11 (23.9%) maintained the same frequency of sexual intercourse while 15 decreased the frequency of intercourse. Eighteen (39.1%) remained active partners while 8 (17.5%) assumed the passive role due to physical problems. Of the 26 sexually active patients, 3 patients experienced chest pain during sexual intercourse; 5 patients experienced dyspnea. In no case were symptoms sufficient to alter postmyocardial infarction sexual activity patterns.²

For the 50 patients in group II, more than 2 years had elapsed since their infarction. Libido was active in 45 patients; of these 45, in 16, libido although active, was decreased in comparison to premorbid levels. Of the 45, 43 were sexually active at varying levels. Two (4.5%) patients were abstinent due to chest pain and/or dyspnea. In the 43 (95.5%) sexually active patients, 26 (57.7%) maintained the premorbid level of sexual intercourse; 17 (37.8%) had

¹Singh et al., p. 503-504.

²Ibid., p. 504.

decreased the frequency of sexual intercourse. "Most of the cases reduced the frequency because of physical disability, but 5 patients admitted that it was because of fear that severe exertion may precipitate another episode of infarction."¹ Eighteen patients (39.1%) remained active partners while 8 (17.5%) assumed a passive role. Change was due to "physical disability." In the sexually active group, 3 patients complained of chest pain while 5 complained of dyspnea. No patient stopped sexual activity as a result of symptoms.²

This study seemed to identify that the problems associated with resumption of sexual activity after myocardial infarction were chest pain, dyspnea, decrease or lack of libido, and anxiety. "Anxiety was chiefly caused by fear of sudden death."³

In a study by Bilodeau, a nurse, and Hackett, associate psychiatrist, Massachusetts General Hospital and assistant professor of psychiatry, Harvard Medical School, the influence of group therapy on postmyocardial infarction adjustment of 5 patients was studied.

All five members directly or indirectly admitted diminished libido and fear of death during intercourse, a fear that was shared by their spouses. 'Your heart's weak, yet, man... sex life alone can kill you right now.' Two members who attempted intercourse and were impotent blamed tranquilizers. Two others stated that they were in no hurry to commence sexual activity, while the fifth was reluctant to ask his doctor because 'he might say I have to wait a year.'⁴

¹Ibid. ²Ibid. ³Ibid., p. 505.

⁴Carolyn Bascom Bilodeau and Thomas P. Hackett, "Issues Raised in a Group Setting by Patients Recovering from Myocardial Infarction," American Journal of Psychiatry 128 (July 1971): p. 75.

In this same group, only 2 patients had attempted sexual intercourse, but 4 had resumed work, the 5th having received a disability pension.¹

Adsett and Bruhn, in a study of 10 patients who participated in group psychotherapy with their wives, discussed patients' psychological problems after myocardial infarction. In regard to activity in general, "the therapists observed that the patients readily became anxious about further heart attacks in response to certain environmental stimuli."²

Fischer and associates studied emotional and time factors related to onset of coronary occlusion. They found that 36% of their patient population had unspecified sexual problems prior to myocardial infarction.³

Nagle, Gangola, and Picton-Robinson studied 115 patients after myocardial infarction who were working at the time of infarction. The investigators were seeking to discover problems influencing return to work. The 3 problems were angina, anxiety, and depression.⁴

¹Ibid.

²C. Alex Adsett and John G. Bruhn, "Short-Term Group Psychotherapy for Post-Myocardial Infarction Patients and Their Wives," The Canadian Medical Association Journal 99 (September 1968): p. 584.

³H. Keith Fischer et al., "Emotional Factors in Coronary Occlusion," Psychosomatics 5 (September-October 1964): p. 281.

⁴Robert Nagle, Rajan Gangola, and Ian Picton-Robinson, "Factors Influencing Return to Work After Myocardial Infarction," Lancet 2 (August 1971): p. 455.

In a study by Sadoughi, Leshner, and Fine, of sexual adjustment in chronically ill patients with stroke, amputation, emphysema, and arthritis, 34 men and 21 women responded to questionnaires. All patients were sexually active before disability. After disability, 8 men and 6 women did not resume sexual activity. In the study, 43 patients (78%) reported decreased frequency of sexual intercourse. This percent included the 14 patients who were abstinent after myocardial infarction.¹ Nine (16%) patients had no change in frequency of sexual intercourse while 3 (5%) reported an increase in frequency. Sexual interest was reported to be present for 54 subjects. Thirty-one (57%) of these, however, noted a decrease in their sexual interest after onset of illness or disability. Nineteen (35%) reported no change in interest from the pre-illness period; 4 (7%) had increased interest as compared to premorbid interest. Sexual satisfaction reported for 41 patients was decreased in 22 (54%), maintained in 17 (41%), and increased in 2 (5%).² Aging was cited as an influence in the reduction of sexual activity, but not as an influence on reduction of sexual interest or satisfaction.³ Of 48 patients reporting on fear related to sexual activity, 9 men and 11 women reported fear of activity.⁴ In the same study, of 45 patients reporting on discomfort,

¹Wanda Sadoughi, Martin Leshner, and Herbert L. Fine, "Sexual Adjustment in a Chronically Ill and Physically Disabled Population: A Pilot Study," Archives of Physical Medicine and Rehabilitation 52 (July 1971): p. 312.

²Ibid., p. 313. ³Ibid., p. 314. ⁴Ibid., p. 315

16 men and 10 women reported discomfort associated with sexual activity.¹ In this study, as in those studies concerning sexual activity of the coronary patient, aging, fear, and physical problems were major factors in the resumption of sexual activity after the onset of physical disability.

Articles documenting the problems associated with sexual activity for the patient with infarction pathology appear in non-research as well as research material.

Koller, Kennedy, Butler, and Wagner report that "a common concern among patients, their spouses, and their physicians is the danger of coital coronary."²

Dengrove, a psychiatrist, related that

A common finding after a myocardial infarction is fear by the man--it usually is the man--to attempt sex relations, even after he has been reassured that it is all right to do so, that his EKG has shown excellent improvement, and will not precipitate another heart attack. The response becomes phobic in quality.³

He also reports that "some patients fear their conditions will worsen if they engage in sexual play, and try to avoid it."⁴

All serious illnesses, operations, and injuries--more or less--

¹Ibid.

²Koller et al., p. 135.

³Edward Dengrove, "Sexual Responses to Disease Processes," The Journal of Sex Research 4 (November 1968): p. 261.

⁴Ibid., p. 262.

alter sexual functioning in the individual. This may reveal itself in diminished interest and frequency, frigidity or impotence, even hypersexuality or bizarre sexual response.¹

Scherf, professor emeritus of medicine, New York Medical College, says that "not rarely patients and their wives refrain from sexual intercourse because of fear of accidents."² Massie, professor of clinical medicine, Washington University School of Medicine, St. Louis, adds, "many men who have suffered heart attacks may fear that this condition means an end to sexual activity."³

Regarding the level of sexual activity after myocardial infarction, Schwab, professor of psychiatry and medicine at University of Florida, observes that "most postcoronary patients voluntarily reduce their sexual activities."⁴

Krauthamer, a cardiologist, makes a variety of observations regarding problems associated with sexual activity after myocardial infarction: "During convalescence, about 20% [of patients] will develop angina when they first return to intercourse. Eventually, less than 10% will experience angina symptoms while enjoying sex."⁵ He

¹Ibid., p. 257.

²"What Do You Tell Post-Coronary Patients Regarding Sex Activity," p. 23.

³Ibid.

⁴"A Summary of a Symposium on Counseling the Cardiac or Work and Sex, p. 1007.

⁵Franklin et al., p. 283.

observes that:

Many wives and husbands are worried that sexual stimulation may trigger another heart attack, but this is less of a risk than they fear. If the man isn't allowed to have intercourse and remains sexually excited, the frustration may have a detrimental effect on the heart.¹

Ultimately, though, Krauthamer observes that "in...practice, 80% of our post-coronary patients can return to sex."²

Franklin, co-author of The Heart Doctors' Heart Book, also makes observations regarding postmyocardial infarction sexual activity. "Certain physical factors can inhibit sex in the newly recovered heart patient: angina or dyspnea (shortness of breath) during intercourse, physical fatigue, and sometimes palpitations. Fear or lack of interest are just as real."³ Franklin continues, "impotence and the fear of impotence may stem from a kind of primitive fear. The doctor assures his patient that an erection begins in the brain, but it does not allay his anxiety. He wonders if his damaged heart really can take the strain of making love."⁴ In addition, Franklin observes that,

how well he [the patient] can perform sexually also depends on the emotional effect of his heart attack. And you can't do after a heart attack what you couldn't do before. The patient who has previously enjoyed sex is likely to return to the pleasure.⁵

Finally, Franklin, in elaborating on the influence of emotion on

¹Ibid., pp. 282-283. ²Ibid., p. 283. ³Ibid., pp. 289-290.

⁴Ibid., p. 291. ⁵Ibid.

sexuality, states, "a lessening of sexual need can accompany anxiety, fatigue, depression, or other problems associated with living in our tense hyperactive world."¹ For myocardial infarction patients, this tense living is complicated by postmyocardial infarction adjustments.

Eliot and Miles, respectively chief of cardiology at Nebraska College of Medicine in Omaha and fellow in cardiology at Nebraska College of Medicine, Omaha, state that "fear, ignorance, and misinformation prevent many people with mild or moderate cardiovascular dysfunction from enjoying normal sexual intercourse."²

Rosenman observes that, regarding the feared coition death, less than 1% of sudden death is due to coitus, but that which occurs is usually of extramarital origin.³ In this same report, Hellerstein, professor of medicine, School of Medicine, Case Western Reserve University, Cleveland, reported knowing of 3 deaths out of 500 being related to coition, also observing that 2 of the 3 deaths occurred extramaritally.⁴ Also in this same source, Bakker, associate professor, Department of Psychiatry, University of Washington, Seattle, along with Hellerstein, discusses problems related to sexual activity after

¹Ibid., p. 292.

²Robert S. Eliot and Richard Miles, "What To Tell the Cardiac Patient About Sexual Intercourse," Resident-Intern Consultant 2 (October 1973): p. 14.

³Heart Disease and Sex: Response to Questions, p. 28.

⁴Ibid.

myocardial infarction. Bakker stresses that "it is important to realize that the trauma of heart disease lies in the capacity to undermine the patient's confidence in his strength and vigor. This sense of inadequacy enhances the fear of sexual intercourse leading to impotence."¹ Hellerstein elaborates that problems become acute when:

- (1) after returning to work, the patient contemplates resuming sex and fears impotence or risk of death.
- (2) the patient develops angina, tachycardia, or excess dyspnea, during initial coitus.
- (3) when the wife discourages his efforts because of her own health, change in sexual desire, or genuine concern for his own safety.²

Golden, associate professor of psychiatry, University of California, San Francisco, feels that "most of the factors inhibiting sexual expression are psychological."³

Naughton, director, National Exercise and Heart Disease Project, introduces a rarely observed point,

The return either to the preinfarct level or to a new level of activity is affected by the patient's ability to employ denial as a defense mechanism. Deniers usually have an accelerated rate of return to work and sexual activity.⁴

Green, a physician in the Department of Medicine, State University

¹Ibid., p. 33. ²Ibid.

³Joshua S. Golden, "Sexuality and the Chronically Ill," The Pharos 37 (April 1975): p. 77.

⁴John Naughton, "Effect of Chronic Illness on Sexual Performance," Medical Aspects of Human Sexuality 8 (October 1975): p. 112.

of New York, Buffalo, cites decreased libido, fear of death during intercourse, and anxiety as problems in postmyocardial infarction sexual activity.¹ He bases his observations on the studies of Bilodeau and Hackett² and Adsett and Bruhn.³ Green also remarks on the issue of coition death. He notes that only 2% of a man's day is spent in acute activity, a percentage of which sexual activity is a small part. Based on this, he observes that "worry over a coronary occlusion only during coitus alone seems unjustified, although coronary insufficiency is a possibility, but justifying no greater concern than should most routine activity."⁴

Tobis, a physician with the School of Medicine, University of California, Irvine, emphasizes the wife's attitude to be important. "Often her fear and anxiety that sexual activity may be disastrous for the patient will mitigate against a normal relationship."⁵

Carey, a clinical nurse specialist in hematology and gastroenterology at University of Wisconsin Hospitals, Madison, Wisconsin, cites the causes of sex problems in disease processes:

- (1) disease process itself

¹Green, p. 248. ²Bilodeau and Hackett, pp. 73-77.

³Adsett and Bruhn, pp. 577-584.

⁴Green, p. 250.

⁵Jerome S. Tobis, "Cardiovascular Patients and Sexual Dysfunction," Archives of Physical Medicine and Rehabilitation 56 (January 1975): p. 11.

- (2) drugs or treatments
- (3) fatigue
- (4) anxiety-interferes with response
- (5) depression or grief-alters libido or sex drive
- (6) physical separations¹

She specifically cites the problems associated with postmyocardial infarction sexual anxiety:

- (1) fear of another coronary during sexual intercourse
- (2) body image change
- (3) anxiety-including spouse
- (4) loss of sexual interest
- (5) erectile difficulties²

Woods, a nurse and assistant professor, Duke University School of Nursing, Durham, North Carolina, implicated "overprotective spouses and lack of information about when to resume intercourse after infarction" as factors that "may prevent resumption of the precoronary sexual pattern."³ Another problem, impotence, is attributed by Woods to "diminished feelings of maleness."⁴ Woods emphasizes drugs as a potential factor in the sexual success of a variety of ill patients. She cites the following groups of drugs:

- (1) antihypertensives
- (2) antidepressants
- (3) antihistamines
- (4) antispasmodics

¹Phyllis Carey, "Temporary Sexual Dysfunction in Reversible Health Limitations," Nursing Clinics of North America 10 (September 1975): p. 577.

²Ibid., p. 579.

³Woods, p. 137.

⁴Ibid.

- (5) sedatives and tranquilizers
- (6) ethyl alcohol
- (7) sex hormone preparations
- (8) saltpeter¹

Scheingold, clinic administrator of Seattle's Cardiac Work Evaluation Clinic, and Wagner, a psychologist at the Seattle clinic, make a popular observation regarding activity including sexual activity. "Resumption of sexual activity often evokes more concern in the cardiac patient than resumption of other forms of physical activity."²

Brenton remarks concerning fear: "Fear of death is frequently so great that he [the patient] needs tremendous reassurance before he'll risk any kind of exertion including sex."³

It is apparent from literature that patients have problems adjusting sexually after myocardial infarction; these same problems may have existed before the infarction. Myocardial infarction usually results in decreased levels of sexual activity, but most patients do resume sexual activity after infarction. Problems associated with postmyocardial sexual activity are also implicated in adjustment to other activity, especially work. The most common problems associated with sexual activity after myocardial infarction are:

¹Ibid., pp. 177-183.

²Lee D. Scheingold and Nathaniel N. Wagner, Sound Sex and the Aging Heart (New York: Human Sciences Press, 1974): p. 83.

³Brenton, p. 21.

- (1) fear and/or anxiety--by patient
- (2) chest pain
- (3) shortness of breath
- (4) fear and/or anxiety--by spouse (partner)
- (5) impotence
- (6) decreased or absent libido
- (7) weakness
- (8) tiredness

These factors are also operant as reasons for not resuming sexual activity. In addition, other reasons for not resuming sexual activity are physician advice and lack of information concerning resumption of sexual activity.

Problems With Return To Work After Myocardial Infarction

Wishnie, Hackett, and Cassem, physicians with the Department of Psychiatry at Massachusetts General Hospital in Boston, studied the problems of 24 patients after myocardial infarction. Although return to sexual activity was not studied, return to other activity, especially return to work, was studied. They found that of 24 patients, 13 returned to work despite problems. These problems included fear of sustaining another myocardial infarction, noted in 5 of the 13 patients returning to work, and increasing dyspnea and/or chest pain that immediately preceded the return to work, noted in 3 of the 13 patients who returned to work. Of the 11 patients who did not return to work, 5 retired without attempting to resume work. Two tried work for 1 day, but chose to retire due to fear. One patient reinfarcted during the recovery phase, and 1 had a cardiovascular accident (unspecified). A housewife resumed limited domestic duties. One other patient was

incapacitated by anxiety to the point that she did not consider re-turning to work.¹

Cay, Vetter, Philip, and Dugard, associated with the Royal Infirmary of Edinburgh, Department of Psychological Medicine and the MRC Unit for Epidemiological Studies in Psychiatry, University of Edinburgh, studied when patients return to work after myocardial infarction. In summarizing their work, they cited the influence of problems on 154 patients who worked at the time of myocardial infarction. Ninety-four (69%) returned to work at 4 months. At 1 year, 102 (77%) were working. At 4 months, ability to return to work and work capability were determined by occurrence of angina and severe breathlessness during work, although patients with severe angina did better than patients with mild angina. By 1 year postmyocardial infarction, angina was not a problem in either resuming work or performing work, but breathlessness was still an influence. Anxiety and depression were highly incriminated in failure to work throughout the postmyocardial infarction period. In fact, at 1 year postmyocardial infarction, 90% of those patients who had not resumed work were depressed.² The authors placed great emphasis on the emotional problems after myocardial infarction, stating, "the patient's opinion

¹Howard A. Wishnie, Thomas P. Hackett, and Ned H. Cassem, "Psychological Hazards of Convalescence Following Myocardial Infarction," The Journal of the American Medical Association 215 (February 1971): p. 1293.

²Cay et al., p. 242.

of his handicap was colored by his emotional state; patients who were depressed or anxious following their heart attack were likely to regard themselves as severely physically handicapped. "¹

Klein of Duke University's Department of Medicine, Dean of Duke's Departments of Sociology and Psychiatry, Wilson, of Duke's Department of Psychiatry, and Bogdonoff, of Duke's Department of Medicine, studied postmyocardial infarction invalidism in 20 men. The study did not specifically examine sexual activity and associated symptoms or problems. It did look at postmyocardial infarction problems, in general, that influenced sexual activity and also work. Twelve of 20 patients returned to work; 3 of these worked only part-time. By comparison, of 20 patients, only 5 reported full resumption of sexual activity--7 were abstinent, 8 decreased sexual intercourse. Interestingly enough, all of the patients reporting either a decrease in sexual activity or abstinence were also either not working or working only part-time.² The following problems during the postmyocardial infarction period were common to patients regardless of the activity:

Chest pain	19 patients
Fatigue	17 patients
Shortness of Breath	14 patients
Sleep difficulty	14 patients
Decreased appetite	9 patients
Nervousness	17 patients
Feelings of failure and self-deprecation	8 patients

³

¹Ibid.

²Klein et al., p. 124-124. ³Ibid., p. 125.

Particular significance was attached to pain associated with activity, and the appearance of pain was used as a signal to stop or modify those activities associated with pain."¹ Also, in regard to pain, the investigators observed, "in the face of uncertainty regarding the cause of symptomatic distress, the most common tendency was to abandon the activity associated with pain and not to resume that activity."² From statements such as these, it would seem that the authors were implying that occurrence of problems resulted in cessation of activity such as work.

Problems Relating to Sexual Activity Before Myocardial Infarction

Unlike other investigators who emphasized only the comparison of patients premorbid versus postinfarction level of sexual intercourse, Skelton, a research psychiatric social worker, and Dominian, a consultant psychiatrist at Central Middlesex Hospital, London, England, in studying stress in wives of myocardial infarction patients, looked at sexual activity levels before and after myocardial infarction; they also spoke to the question of general problems before and after myocardial infarction.³

In this study of psychological stress in 65 wives of patients with myocardial infarctions, interviews demonstrated that "in ten of sixty-five couples there was evidence of problems (affecting marital

¹Ibid., p. 126. ²Ibid., p. 127.

³Skelton and Dominian, pp. 101-103.

relations) before the illness."¹ Eight wives thought . . . difficulties were exacerbated by the illness,"² although "the impact of the illness appeared to depend on the quality of marital relations before its onset."³

Also in this study, of 38 couples having sexual intercourse before myocardial infarction, at one year postinfarction, 35 couples had resumed sexual activity.⁴

With regard to the relationship of postinfarction sexual activity to premorbid activity:

Many wives felt that the frequency of sexual intercourse had been decreasing as they became older and the illness only accelerated this trend. Nine wives, however, expressed concern and anxiety about the effect of sexual intercourse on their husbands and wanted to discuss the problem and seek advice. These were wives who enjoyed sexual intercourse and wanted to resume relations as before the illness. They thought that it was their anxiety about the safety of sexual intercourse on the husband's health which was responsible for the decline in sexual activity. By six months after the illness all but one of these couples had resumed sexual intercourse. One wife became so anxious about the effect on her husband's health that she was too frightened to do so.⁵

Skelton and Dominian thus demonstrated that wives experience problems that influence their spouses' ability to sexually adjust. The influences included 1) premorbid marital relations, 2) the illness itself, and 3) age. The actual problems were fear and anxiety by the wife.

¹Ibid., pp. 102-103. ²Ibid., p. 103. ³Ibid., p. 102.

⁴Ibid., p. 103. ⁵Ibid., p. 103.

Non-Sexual Preinfarction Problems

Weiss and Bepler, physicians with the Department of Medicine, Temple University, Dlin and Fischer, physicians with Temple University's Department of Psychiatry, and Rollin, a physician and Fulbright Scholar, Horton Hospital, Espson, England, together identified indications of a variety of general problems existing prior to myocardial infarction. In 6 (14%) patients of the 43 postmyocardial infarction patients in the study group, there was evidence of physical stress, for example, increased activity, preceding infarction. Ten (23%) patients were classified as having been neurotic prior to their illness. Eighteen patients were classified as having character disorders prior to the infarction. In addition, 21 (49%) patients showed a history of "gradually mounting tension of emotional origin, months or years in duration" prior to the coronary incident. Also, 16 (37%) patients "showed acute emotional stress which at least on four occasions (9%) was added to the gradually mounting tension just before the onset of the coronary occlusion."¹

This data seemed to indicate that there are preinfarction emotional problems experienced by myocardial infarction patients that may play a role in infarction and subsequent postinfarction problems associated with sexual activity and activities of daily living.

Incidence of Absence of Patient Information

¹Weiss et al., p. 632-634.

If problems are an influential factor in postmyocardial infarction sexual activity, what role might information and instruction regarding sexual activity after myocardial infarction play in deterring problems? Has research evidenced that information is being provided to patients? What information has been given to patients and who has been providing it?

The issue of the patient's need for information during rehabilitation seems a moot point. After serious illness, patients are grappling with a future that they may have never experienced. It seems apparent that fear of the unknown exists. Information about something unknown seems to assist patients in coping with the anticipation of the unknown by decreasing fear and anxiety associated with it.

Yet, research bears little evidence of information having been provided to patients who are facing postmyocardial infarction rehabilitation. Most literature recommends what information should be provided, but there is little evidence of it actually being provided.

Tuttle, Cook, and Fitch, physicians who in 1964 were associated with the Pittsburgh, Pennsylvania Cardiac Work Evaluation Clinic, studied patients 1 to 9 years after infarction. Two-thirds of these patients reported receiving no advice regarding sexual activity after myocardial infarction. The remaining 1/3 reported receiving vague or non-specific advice.¹ The investigators reported that,

¹Tuttle, Cook, and Fitch, p. 140.

having received little or no advice from their physicians, these patients set their own patterns which represented a considerable deviation from their previous sexual activity. Our interviews suggested that this change in behavior was based on misinformation and fear.¹

The investigators of this study encouraged that patients be given more specific instructions regarding activity and that the physician should provide the information.²

A study by Wenger, Hellerstein, and Blackburn, all physicians, and Castranova, a statistician, showed that the physicians questioned provided a variety of information, but sex was discussed slightly less than other knowledge areas. Patients were counseled on return to work (by 98% of doctors), regarding smoking (by 97% of doctors), about diet (by 97% of doctors), and regarding sexual activity (by 95% of doctors). Interestingly enough, physicians depended mostly on verbal, self-delivered counseling, the investigators reporting only a 44% incidence of physicians utilizing educational material.³ The investigators provided no data on whether patients thought information provided was adequate.

In reporting on long-term experience with a variety of patients and physicians in a general hospital, Pinderhughes, a psychiatrist, and associates observed with regard to incidence of instruction: "physicians reported that they initiated discussion of sexual matters

¹Ibid. ²Ibid.

³Wenger et al., p. 512.

for 40% of all medical conditions listed, [variety of medical problems studied in this research]. Patients reported less doctor-initiated discussion--25%.¹ Physicians reported that 37% of patients were likely to initiate discussion [regarding sex] if they had circulatory disorders. Only 8% of these patients felt they initiated discussion.²

Regarding the source of information, "approximately 1/2 (54%) of all patients said they believed doctors should discuss sexual functioning."³ Fifty percent of the circulatory patients in this study reported benefiting from such discussion with doctors, reporting that the information was helpful.⁴

Dobson, a psychiatric social worker, Tattersfield and Adler, registrars, and McNicol, a consultant physician in London, alluded to the absence of adequate patient and spouse information stating that, "most patients and spouses felt that more explanation and discussion with the medical staff would have helped to alleviate anxiety."⁵

That any information was provided is only alluded to in the study by Singh et al. where the rationale for changes in sexual frequency, abstinence, or change in role were noted as being related to medical advice.⁶

Nagle, Gangola, and Picton-Robinson studied return to work, an

¹Pinderhughes et al., p. 68. ²Ibid., p. 69.

³Ibid. ⁴Ibid. ⁵Dobson et al., p. 207.

⁶Singh et al., p. 504.

activity closely equated with return to sexual activity. With regard to information, the investigators reported that "many of our patients suffered from simple lack of instruction and reassurance."¹

In reviewing literature, Pinderhughes et al. made a pertinent summary statement regarding patient information:

It would be most desirable for physicians to become more fully aware of the relationships between medical problems and sexual functioning in order to assist their patients to cope and develop realistic expectations. Some patients would be eased of the burden of self-imposed medical restrictions and some could be aided in their adjustment to those situations in which an illness, treatment, or operative procedure is likely to have an adverse effect upon their sexual functioning.²

In a survey article, Krause, director of the Cardiopulmonary Lab, St. Paul Hospital, Dallas, Texas, stated that 95% of 75 physicians reported that they counseled patients.³

Klein's group reported that,

in situations where there was no demand by the patient for explicit answers to the questions of physical activity levels or the meaning of symptoms, nothing was said by the physician regarding these areas. If there was overt concern over activity expressed to the physician by the patient or spouse, a common advice was to 'do what you feel like doing.' This had the effect of returning the task of defining the situation to the patient.⁴

Patients and spouses both reported receiving this vague information.

¹Nagle, Gangola, and Picton-Robinson, p. 456.

²Pinderhughes et al., p. 73.

³"Heart Disease and Sex: Responses to Questions, p. 33.

⁴Klein et al., p. 127.

Thus, as in Tuttle's study, information was provided by the physician but it was vague.

Reluctance to introduce the subject of sexual activity after myocardial infarction was reported by Bilodeau and Hackett. One patient was reluctant to ask out of fear of what he might be told; the investigators found that no patients in their group had discussed sexual concerns with the physician and no physicians had introduced the topic.¹

In the study conducted by Hellerstein and Friedman, a cardiologist and psychiatrist respectively, there was no evidence that their patients received factual information regarding resumption of sexual activity after myocardial infarction. However, in the authors' discussion at the end of the report, the importance of patient information was stressed: "Ranking high in importance throughout this process of restoration is the question of returning to normal sexuality--a normal part of a lifelong phenomenon."² These investigators emphasized that counselors, in this instance physicians, should anticipate fears and concerns related to all aspects of recovery including resumption of sexual activity and should begin counseling early. Sexual adjustment resulting from counseling was seen as essential since "patient happiness and successful re-entry into the family dynamics depend in great part on the way in

¹Bilodeau and Hackett, p. 75.

²Hellerstein and Friedman, p. 89.

which he [the patient] fits into his sex role and directs his sexuality."¹

Bloch, Maeder, and Haissly, all physicians, reported that "extensive discussions with the patient and sometimes with the wife, including frequent explanations and reassurances, will help the patient to resume an active sexual life after a myocardial infarction."²

Rosen and Bibring,³ along with Cassem and Hackett,⁴ reported on sexually provocative behavior in patients with acute myocardial infarction even while these patients were still in the coronary care unit. Such behavior may be seen as an indication that patients are concerned about their sexuality and hence, are desirous of information concerning sexual activity after myocardial infarction.

Who Should Receive Information--Patient and Partner

Klein et al. state that "the patient's spouse should be included in an open discussion of the meaning of symptoms and any specific modification of activities and roles. The physician should be particularly alert to anxiety in the spouse."⁵

Koller, Kennedy, Butler, and Wagner, 3 physicians and a Ph.D.

¹Ibid. ²Bloch, Maeder, and Haissly, p. 537.

³Jacqueline L. Rosen and Grete L. Bibring, "Psychological Reactions of Hospitalized Male Patients Attack," Psychosomatic Medicine 28 (November-December 1966), p. 814.

⁴N. H. Cassem and Thomas P. Hackett; "Psychiatric Consultation in a Coronary Care Unit," Annals of Internal Medicine 75 (July 1971): p. 12.

⁵Klein et al., p. 128.

respectively, encourage the provision of specific information for the wife.

The wife's expectations can be realistic, her fears allayed, and her role delineated. If she knows the physiologic costs of sexual activity are minimal and is aware of further ways to reduce them (side by side or female on top positions) she can be a valuable asset during the recovery period.¹

In a study by Sadoughi, Leshner, and Fine, of chronically ill patients in general,

Almost one half of the subjects indicated that they would have liked to discuss sexual problems with a hospital staff member if one had been available. Furthermore, the majority of subjects indicated preference for a like-sexed medical doctor as the person with whom they would be most willing to discuss sexual problems.²

Skelton and Dominian emphasize the importance of the physician discussing all aspects of the postmyocardial infarction adjustment period with the patient and spouse. However, they were unable to document this having occurred.³

Gentry, a Ph.D., and Williams, a physician, see prevention as the goal in counseling the patient and partner. "if specific information is made available to the patient and spouse as to what can be safely demanded of a healing heart--and when and how--most sexual problems may well be prevented."⁴

¹Koller et al., p. 136. ²Sadoughi, Leshner, and Fine, p. 316.

³Skelton and Dominian, p. 103.

⁴W. Doyle Gentry and Redford B. Williams, ed., Psychological Aspects of Myocardial Infarction and Coronary Care (St. Louis: The C. V. Mosby Co., 1975): p. 114.

Wishnie, Hackett, and Cassem, all physicians with Massachusetts General Hospital's Department of Psychiatry, state that 8 of 24 patients with myocardial infarction followed physician instructions, but they did not elaborate on the statement.¹ In their recommendations, they speak to the importance of providing specific activity guidelines and specific instructions to the patient and spouse regarding the general rehabilitation period.²

Schwab, a psychiatrist, encourages including the wife in all information, but not before initiating talk with the patient.³

Golden, associate professor of psychiatry at University of California at San Francisco, recommends a foundation upon which to base information regarding sexuality that is provided to patients and their partners. His feeling is that fundamental to the process of patient-spouse counseling is the task of establishing communication between partners about sexual concerns.⁴

From this review of research, the following observations might be made:

(1) Patients seldom receive information regarding sexual activity after myocardial infarction and, if they do get information, it is usually vague and non-specific; in the studies consulted, no specific information was provided regarding other activity either.

¹Wishnie et al., p. 1294. ²Ibid., p. 1295.

³"Heart Disease and Sex: Responses to Questions," p. 33.

⁴Golden, p. 78.

(2) Specific information regarding all aspects of rehabilitation is necessary not only to assure optimum rehabilitation, but also to allay anxiety and promote compliance during the recuperative period.

(3) Information should be provided not only to the patient but also to the spouse.

In the remainder of this review of literature, non-research material will be examined in the light of the following question:

What Source is Recommended as the Provider of Information Regarding Postinfarction Sexual Activity?

Green places responsibility on the physician to provide information. "The strong influence of a physician's opinion on patient's attitudes and functions demands of him the elimination of anxiety, fear, and depression."¹

Brenton also cites the doctor as information source.² Pauly states that another professional is important, indicating, "it appears that the physician and clergyman have been singled out by the lay public as the most likely persons to offer help for sexual problems."³ Calderone, executive director of the Sex Information and Education Council of the United States, agrees with Pauly, stating, "it has been shown that the individual with a sexual problem tends to go first to the

¹Green, p. 247

²Brenton, pp. 88-89.

³Ira B. Pauly, "Influence of Training and Attitudes on Sexual Counseling in Medical Practice," Medical Aspects of Human Sexuality 6 (March 1972): p. 84.

physician and secondly to the clergyman."¹ Massie,² Wenger et al.,³ and Koller et al.,⁴ all indicate that the physician should be the sexual counselor.

Other sources cite nurses as suitable counselors or as adjuncts to physician counseling. Lawson, a nurse and associate professor, Clinical Nursing, and director of intensive care programming, School of Nursing, State University of New York, Buffalo, cites the nurse's role:

- (1) Watch for clues that indicate his [the patient's] concern
- (2) Encourage him to express his fears [also encourage wife to ventilate]
- (3) Serve as an intermediary to alert the physician to the patient's need for counseling.⁵

Jacobson, associate professor, Department of Health Education at Teachers' College, says, "nurses should anticipate the patient's concern about his future sex life and provide reassurance that the patient will be able to resume activities of daily living, these will include sexual ones."⁶

We nurses need to know as much as possible about human sexual behavior so we may give adequate counsel that will

¹Mary S. Calderone, "Sexuality and the Practice of Medicine," Maryland State Medical Journal 23 (June 1974): p. 35.

²"What Do You Tell Post-Coronary Patients Regarding Sex Activity," p. 24.

³Wenger et al., p. 33. ⁴Koller et al., p. 136.

⁵Lawson, p. ICU-2. ⁶Jacobson, p. 50.

help others to understand their normal sexual development and functioning.¹

Zalar,² Mims,³ Sedgwick,⁴ and Woods and Mandetta⁵ imply nurses' roles in providing information by speaking about the dynamics inherent in these roles. Examining one's attitudes regarding sexuality and accepting one's own sexuality and that of the patient are all deemed essential bases for being an effective counselor.

Krizinofski, lecturer, State University of New York, School of Nursing, Binghamton, New York, is detailed in discussing the nurse-counselor and her role:

The nurse and nursing stand in a unique position for intervening in an individual's sexual concerns in health and illness. The nurse who would accept this role of dealing with the intimacies of the fabric of the human condition has several tasks to accomplish:

- (1) Awareness of her own beliefs, values, and attitudes toward sexuality.
- (2) Development of interpersonal skills necessary to:
 - a. create an atmosphere conducive to discussion of sexual concerns
 - b. listen for nonverbal cues of sexual concerns
 - c. elicit verbalization of underlying concerns
- (3) Increase in knowledge of sexual psychology and sexual physiology and functioning.

¹Golub, "How Nurses Reply to Questions About Sex," p. 96.

²Zalar, pp. 40-41.

³Fern H. Mims, "Sexual Health Education and Counseling," Nursing Clinics of North America 10 (September 1975): p. 528.

⁴Rae Sedgwick, "Myths in Human Sexuality," Nursing Clinics of North America 10 (September 1975): p. 549.

⁵Nancy Fugate Woods and Anne F. Mandetta, "Human Sexual Response Patterns," Nursing Clinics of North America 10 (September 1975): pp. 529-530.

- (4) Development of an ability to assess the patient's perception of his sexual concerns.
- (5) Exploration of the role of the nurse in intervention in the sexual concerns of patients.¹

With regard to nurse counseling, Scalzi discusses aggressive sexual behavior by the patient, behavior aimed at bolstering the patient's self-concept; in the same article, she delineates nursing's role of intervening in aggressive sexual behavior.²

Diamond³ and Golden⁴ group sexual counselors in a general classification, referring to them as professionals or therapists.

Summary

This literature review has presented the research and non-research material that is pertinent to the question of sexual activity and adjustment in the patient following acute myocardial infarction.

This investigator believes that the following points may be made based on literature:

- (1) There seems to be wide acceptance of 12 weeks as the acceptable time from infarction to resumption of sexual activity. This time closely coincides with the acceptable time for returning to work. No research looks comparatively at the time of resumption of sexual activity compared with

¹Krizinofski, pp. 675-676.

²Cynthia C. Scalzi, "Nursing Management of Behavioral Responses Following Acute Myocardial Infarction," Heart and Lung 2 (January-February 1973): p. 64.

³Milton Diamond, "Sexuality and the Handicapped," Rehabilitation Literature 35 (February 1974): p. 37.

⁴Golden, p. 78.

resumption of a variety of other activities.

(2) Much is written about general problems experienced by the patient recovering after myocardial infarction. A few studies speak of problems associated with sexual activity after myocardial infarction. These studies, though, utilize the interview technique in obtaining patient information. Laver points out that "the incidence of sexual difficulties is underestimated in a direct interview as compared to a written questionnaire method."¹ There does not seem to be any research which provides a comprehensive review of problems obtained by questionnaire method.

(3) It has been documented that information should be provided by health professionals to patients and spouses, yet, information regarding sexual activity after myocardial infarction is rarely being provided for patients and partners. There is no research that clearly demonstrates the dynamics of patient instruction.

(4) Numerous studies suggest the need for patient-partner instruction. No studies present what specific information patients and/or partners actually receive; no research has been done regarding what specific information patients and/or spouses wish to receive or feel they need to receive in order to attain optimum sexual function suitable to their needs.

(5) There is no research that demonstrates the influence of patient information or lack of information on incidence of problems associated with postmyocardial infarction sexual activity.

The methodology and results of this study follow in Chapters 3 and 4.

¹M. C. Laver, "Sexual Behavior Patterns in Male Hypertensives," Australian & New Zealand Journal of Medicine 4 (1974): p. 29-31.

CHAPTER III

METHODOLOGY

This descriptive study concerning the sexual activity and adjustment of postmyocardial infarction patients had 10 purposes. These were: (1) to determine the types of problems that patient experience concerning sexual activity after myocardial infarction; (2) to determine if a relationship exists between these problems and the information regarding sexual activity which is given to the patient prior to discharge from the hospital; (3) to determine the influence of the problems on the patients' decisions concerning sexual activity; (4) to determine if patients receive information regarding other components of rehabilitation more often than information regarding sexual activity; (5) to determine if the problems affecting sexual activity also influence activities of daily living; (6) if postinfarction problems interfering with sexual activity and activities of daily living occur, to determine if they existed prior to infarction or developed as a result of the infarction; (7) to determine if age is a factor in sexual adjustment of patients after myocardial infarction; (8) to determine what information the patients and their partners believe they need regarding sexual activity; (9) to identify what resources the patients believe should impart the information; and (10) to identify implications for patient instruction.

Descriptive research "is primarily concerned with obtaining

accurate and meaningful descriptions of the phenomena under study."¹ This study also contains an explanatory component in that it especially considers the effect of the independent variable of patient information or lack of it on the dependent variable, sexual adjustment of the patient with a myocardial infarction.

The survey method was used to obtain the data needed to meet the purposes. As Leedy points out, "the descriptive survey method deals with a situation that demands the technique of observation as the principal means of collecting the data."²

Subjects

The group of patients to be studied was selected according to the following criteria:

1. Adult, private patients of 5 internists, 3 practicing cardiology, 2 practicing general internal medicine.
2. Patients with a diagnosed myocardial infarction who were admitted to the coronary care unit of a small, southeastern United States community hospital between March 29, 1974 and April 5, 1975.
3. Patients who responded to a mailed questionnaire.

Forty-nine patients were included in the original sample. Of

¹Faye G. Abdellah and Eugene Levine, Better Patient Care Through Nursing Research (New York: The Macmillan Company, 1965): p. 708.

²Paul D. Leedy, Practical Research: Planning and Design (New York: Macmillan Publishing Company, Inc.): p. 80.

these, 18 questionnaires were returned. Two of these were returned blank, 1 patient had died. The final sample, therefore, consisted of 15 patients with myocardial infarctions.

Setting

The setting for the research was a small southeastern United States city and surrounding counties, the area served by one 300-bed community hospital. It was originally thought that respondents were confined to this geographical area, since all patients were admitted to the same hospital. However, returned questionnaires came from areas as distant as 2,000 miles, patients having moved since hospitalization or, in the case of patients who became ill while traveling, having returned to their homes.

Patients were requested to complete a questionnaire in their homes. Therefore, variables in the patient's setting were non-definable. The varied home settings might be preferable to a standardized hospital setting for completing questionnaires since, in the home, the patient might be more relaxed and more adjusted to environmental stimuli which, in an institutional setting, might affect his responses to the questions.

Instrument

Two factors determine the selection of a mailed questionnaire as the data collection tool:

1. Because of the intimate nature of the questions asked in the research tool, it was felt that patients would be more willing to respond if their anonymity was preserved as opposed to being interviewed by the investigator.

2. "A commonplace instrument for observing the data beyond the physical reach of the observer is the questionnaire which, for example, may be sent to human beings who are thousands of miles away and whom the researcher will never see."¹

One possible drawback of a questionnaire answered in a variety of unstructured settings is that the investigator is not available to answer respondents' questions. However, this drawback might alternatively be seen as an asset, since answers to questions might introduce investigator bias into questionnaire responses. A telephone number was provided for patients if they had questions. Only one respondent availed himself of this offer.

The questionnaire was prepared by developing checklist-style questions, the replies to which would provide data applicable to the queries implied in the purposes of the study.²

The questionnaire was headed with a set of general instructions:

Below and on the next pages are questions, the answers to which will provide information for the study described to you in the attached letter. Please respond by checking the appropriate space(s). At points within the questionnaire,

¹Ibid., p. 81

²Appendix A.

additional instructions are provided, so, please do not skip any questions unless the directions specify that you do so. When answering questions that require you to compare present activity to activity before your heart attack, consider "before" to be 2 months before your heart attack. If you have had more than one heart attack, please answer questions with reference to 2 months before your most recent attack and the time period since this attack.

Additional instructions, related to specific questions, appeared throughout the questionnaire.

The questionnaire had general questions applicable to all patients such as what problems were present prior to myocardial infarction and what were the influences of these problems on activities of daily living. There were questions regarding discharge information provided to the patient about general activities of daily living and about resumption of sexual activity. Inquiry was made into who provided discharge information; patients were also asked if they had resumed sexual activity.

Questions were then asked specifically of patients who had resumed sexual activity. These included whether they believed that discharge information regarding sexual activity was adequate. Responses were requested concerning: Premorbid and postinfarction frequency of sexual activity; problems associated with resumption of sexual activity; the influence of such problems on sexual activity; and patients' responses to problems.

Of patients who had not resumed sexual activity, questions to these patients included reasons for not resuming sexual activity and

frequency of sexual activity prior to infarction.

The last part of the questionnaire contained questions again aimed at all respondents. They were asked: What physical activities other than sexual activity they had resumed; what information patients felt is needed in order to resume sexual activity; what sources should provide information; and what information should be provided to the patients' partners.

Throughout the questionnaire and at the end, spaces were provided for replies other than those listed in the various checklists and for comments, recommendations, and so forth.

One of the initial drafts of the questionnaire was subjected to a pilot study with a group of healthy graduate students. However, this trial study's results were deemed valueless since the trial group viewed the topic as humorous and replied to questions with either facetious or ridiculous answers.

Content validity of the questionnaire was determined by a panel of experts consisting of a cardiologist and a cardiac clinical nurse specialist.

A cover letter was prepared which explained the study and assured anonymity of the patients.¹ Each letter was signed by the investigator and by each patient's physician under a statement of endorsement of the study. At the end of the cover letter was a patient

¹Appendix B.

request for summary results of the study. Patients were instructed to complete this request with their name and address and return it in the envelope with the consent form if they wished to be sent a copy of the study results.

Procedure

Written permission was obtained individually from the 5 internists to send questionnaires to any of their patients that would fit the criteria for inclusion in the study.² Verbal permission was then obtained from the Director of Nurses of the hospital to use the log book of the Coronary Care Unit in order to select a sample.

The log book was surveyed. All patients with a CCU admitting diagnosis of acute myocardial infarction or rule-out acute myocardial infarction were tentatively included in the sample. Following this procedure, verbal permission was obtained from the Hospital Administrator and the Director of Medical Records to review the medical records of the patients in the tentative sample. The charts of all of these patients were reviewed to ascertain verification that each patient's discharge diagnosis was a confirmed acute myocardial infarction during that hospitalization.

A cover letter explaining the study, a statement of informed consent,¹ and a questionnaire were then sent to each selected patient.

¹Appendix C.

²Appendix D.

Included with the questionnaire, consent, and letter were 2 self-addressed, stamped envelopes. The patients were instructed to return the informed consent in one envelope and the questionnaire in the other envelope. Protection of anonymity was the rationale for this instruction to the patients.

A period of seven weeks was allowed for response to the questionnaire. At the end of this time, follow-up postcards were sent to all patients who had not responded.² The postcard reminded them of material that had been sent and requested them to participate in the study. A telephone number was provided in the event the patient wished to participate but had either not received the material or had misplaced same.

At the end of the data collection period, the data was analyzed. Chapter IV presents the analysis of the data results.

¹ Appendix E.

CHAPTER IV
ANALYSIS OF DATA

The hypotheses in this study were: (1) there are specific, common problems which coronary patients experience in adjusting sexually following myocardial infarction; (2) patients with myocardial infarction will experience no problems resuming sexual activity if, prior to discharge, they receive information regarding resumption of sexual activity; (3) more patients will report receiving less information regarding sexual activity than information in any other area of rehabilitation; (4) problems during sexual activity reported by postmyocardial infarction patients will interfere with their activities of daily living less than with sexual activity; (5) if there are problems associated with sexual activity reported by patients as interfering with sexual activity and activities of daily living, these will neither have been present before infarction nor have interfered with preinfarction sexual activity and activities of daily living; (6) age will not be a factor in resumption of sexual activity; (7) patients will have definite ideas of what information is necessary in order to adjust sexually; (8) patients will think that the same information provided to them should be provided to their partners; and (9) patients will prefer that health professionals, physicians and nurses, provide the information regarding resumption of sexual activity.

Analysis of Data

In analyzing the questionnaires returned in response to this survey, patient profiles were prepared to assist in the analysis.¹

The first hypothesis to be studied was: there are specific, common problems which coronary patients experience in adjusting sexually following myocardial infarction.

TABLE 1

Common Problems Experienced by Coronary Patients
in Adjusting Sexually After Myocardial Infarction

Problem	Number of Patients Reporting the Problem (N=14)
Chest Pain.....	4
Weakness.....	3
Your fear of having another heart attack.....	3
Weakness.....	3
Shortness of Breath.....	2
Tiredness.....	2
Fear of failing to perform sexually.....	2
Your partner's fear of you having another attack.....	2
Fear of having chest pain.....	2
Impotence (failing to perform sexually).....	1
Other.....	0
No problems.....	6

¹Appendix F.

The most commonly experienced problem associated with sexual activity after myocardial infarction was chest pain. Of the four patients experiencing chest pain, 2 had had more than 1 infarction.

Six patients (43%) stated they experienced no problems with sexual activity after myocardial infarction.

Of the 8 patients reporting problems, 2 stated that they decreased sexual activity as a result of the problems.

In relation to problems associated with sexual activity, patients were asked if any problems persisted. Of the 14 patients, there were 6 instances of persisting problems. These were chest pain (3), shortness of breath (2), "holding back-- fear of another attack" (1), partner's fear (1), and "sick sometimes" (1).

The second hypothesis was : patients with myocardial infarction will experience no problems resuming sexual activity if, prior to discharge, they receive information regarding resumption of sexual activity at home.

Table 2 contains the data relative to this hypothesis.

TABLE 2

Relationship Between Discharge Information and Postmyocardial Infarction

Problems Associated with Sexual Activity

Patient Number (N=15)	Number of Infarcts	Received Information		Resumed Sexual Activity	Number of Problems	Number of Persistent Problems
		Previous	Recent			
1	3	no	x	Yes	7	2
2	1	x	no	Yes	0	0
3	1	x	no	—	—	—
4	3	yes	no	Yes	—	1
5	1	x	no	Yes	5	0
6	1	x	yes	Yes	0	0
7	1	x	yes	Yes	2	1
8	1	x	yes	Yes	1	0
9	1	x	yes	Yes	0	0
10	1	x	yes	Yes	3	3
11	1	x	yes	Yes	0	0
12	2	no	no	Yes	1	0
13	4	no	no	Yes	1	1
14	1	x	no	Yes	0	0
15	1	x	yes	Yes	0	0

x-not applicable

-did not answer

Eight patients reported receiving information regarding resumption of sexual activity. All of these patients resumed sexual activity. Despite information, 4 of these patients (50%) experienced problems associated with resumption of sexual activity.

Seven patients reported never receiving information regarding resumption of sexual activity. Six stated they resumed sexual activity; the 7th patient stated she was divorced and not sexually active. Of the 6 patients resuming sexual activity, 4 of the 6 (67%) had problems associated with it.

The hypothesis that information will prevent problems in post-myocardial infarction sexual activity was disproved since 50% of patients receiving information experienced problems in resumption of sexual activity. Sixty-seven percent of patients not receiving information experienced problems in returning to sexual activity.

Information did appear to influence the time of resumption of sexual activity. Of the 7 patients who received no information regarding sexual activity, 4 reported on the time lapse between infarction and return to sexual activity. In this group, the mean time for resumption of sexual activity was 11.5 weeks with a range of 9.32-13.68. Eight patients reported receiving information regarding sexual activity after infarction; 1 did not respond on the time from infarction to return to sexual activity. Of the 7 patients who did provide data on time of resumption of activity, the mean time was

5.1 weeks with a range of 3.0-7.2.

There were 8 patients who received discharge information regarding sexual activity; 1 of these patients had received the information at the time of a previous infarction. All 8 of these patients received information in 4 to 7 other areas of rehabilitation also (See Appendix G). Seven patients received no information regarding sexual activity after myocardial infarction. Of these 7 patients, 6 received information in 5 to 7 other areas of rehabilitation; 1 patient received no information at all.

Thus, 8 of 15 patients (53%) received information regarding sexual activity after myocardial infarction as compared to 14 of 15 patients who received information in 4 to 7 other areas of rehabilitation, supporting the 3rd hypothesis.

Table 3 shows information concerning sexual activity by topic received by patients after myocardial infarction.

TABLE 3
Information Received by Patients On Resumption of
Sexual Activity

Information Item	Number of Patients Receiving Information		Total
	After Previous M. I.	After Recent M. I.	
When to resume sexual activity	1	5	6

TABLE 3(cont.)

Information Item	Number of Patients Receiving Information		Total
	After Previous M. I.	After Recent M. I.	
How often sex relations advisable	1	2	3
Time of day for sex relations	1	0	1
Positions for sexual relations	1	2	3
Dangers of sexual activity	1	0	1
Safety of sexual activity	0	2	2

When to resume sexual activity was the most frequently discussed topic of information regarding postmyocardial infarction sexual activity. It was discussed on 6 instances. How often sexual relations are advisable and positions for sexual activity were the next most often discussed topics, being presented to 3 patients.

Safety of activity was discussed with 2 patients while time of day for sex relations and dangers of sexual activity were presented to 1.

Of the 8 patients receiving information regarding resumption of sexual activity, 6 (75%) felt the information they received was adequate. Of the 7 patients receiving no information on sexual activity, 6 (85.7%) felt inadequately prepared to make decisions regarding

postinfarction sexual activity; 1 patient felt no information was necessary replying that he needed none.

The 4th hypothesis stated that problems during sexual activity reported by patients will interfere with their activities of daily living less than with sexual activity.

TABLE 4
Interference of Problems Experienced by Patients During
Sexual Activity Upon Activities of Daily Living

Problems	Number of patients experiencing prob- lem during sexual activity (N=8)	Number of patients experiencing prob- associated with activities of daily living (N=8)
Chest pain	4	3
Shortness of Breath	2	1
Fear	3	3
Problems in general	0	1

Eight patients resumed sexual activity despite problems; 6 patients had no problems associated with sexual activity.

Of the 8 patients who resumed sexual activity despite problems, 7 reported that problems interfered with activities of daily living, such as job, yard work, and leisure activity. Despite problems, 5

out of 8 patients returned to work; 7 of 8 patients resumed yard work; 7 of 8 patients also resumed leisure activity. It was thought by the investigator that patients would interpret housework to mean chores around the home, but since only 1 man reported resuming housework, this activity may not have been viewed as a choice applicable to the male patients. All 8 patients resumed driving a car while 6 of 8 patients resumed stair climbing.

Patients did not always explain reasons for not resuming activities of daily living. Three patients described problems interfering with activities which were nevertheless resumed. However, the problems noted to affect activities of daily living were chest pain, shortness of breath, fear, and "problems in general." 1 patient who had no problems associated with sexual activity reported chest pain in association with running.

The specific activities affected by problems were stair climbing (3 patients), walking (2 patients), exertional activity (1 patient), and "arm movement--getting in and out of bath tub and car" (1 patient).

Problems interfering with sexual activity also interfered with activities of daily living. Fewer patients experienced the problems of chest pain and shortness of breath in association with activities of daily living than during sexual activity. All patients resumed at least some activities of daily living despite problems; all patients resumed sexual activity despite problems. Therefore, problems associated with sexual activity reported by patients also interfered with activities

of daily living. Data was insufficient to judge whether problems interfered significantly with sexual activity more or less than with activities of daily living.

TABLE 5
Influence of Problems on Frequency of Sexual Activity

Patients Reporting Problems (N=8)	Preinfarction Level of Sexual Activity	Postinfarction Level of Sexual Activity
#1	3 or more times per week	Two or less times per month
#4	3 or more times per week	An average of one time per week
#5	An average of once per week	
#7	An average of once per week*	
#8	3 or more times per week	An average of one time per week
#10	3 or more times per week	3 or more times per week
#12	An average of once per week	An average of once per week
#13	An average of once per week	Two or less times per month

* After resuming postinfarction sexual activity, these patients experienced problems associated with coitus. As a result of problems, frequency of coitus was reduced.

In examining the effect of problems on the frequency of resumed sexual activity after myocardial infarction, of the 8 patients with problems associated with postinfarction sexual activity, 2 patients reported only 1 level of sexual activity, that being the preinfarction level of sexual activity. It is assumed for these 2 patients that no postinfarction level was checked because it was unchanged after infarction. A total of 4 patients had no change in level of sexual activity despite myocardial infarction and postinfarction problems associated with resumption of sexual activity. Four patients with problems reported a decrease in sexual activity after infarction.

By comparison, of the 6 patients reporting no problems associated with sexual activity after myocardial infarction, in all cases, the level of sexual activity was the same before and after the attack.

Since all patients resumed sexual activity despite problems and also resumed some if not all activities of daily living, it was not demonstrated that problems interfere, to a definable degree, with resumption of activities after myocardial infarction. Postmyocardial infarction problems were an influence on postinfarction sexual activity since 50% of patients experiencing problems decreased frequency of sexual activity while 100% of patients with no associated problems had no change in frequency of sexual activity.

The 5th hypothesis stated that postinfarction problems associated with sexual activity reported by patients as interfering with their sexual activity and activities of daily living will neither have been

present before infarction nor will have interfered with preinfarction sexual activity or activities of daily living.

TABLE 6

Interference of Problems With Preinfarction and Postinfarction
Sexual Activity and Activities of Daily Living

Activity	Problems Interfering With Sexual Activity and Activities of Daily Living	
	Preinfarction (N=15)	Postinfarction
Housework	4	7
Job	4	3
Leisure Activity	3	1
Sexual Activity	3	8

Postinfarction problems interfering with the job, leisure activity, housework, and sexual activity were also present in the preinfarction period. Although the same problems were reported both before and after infarction, problems were not always present in the same patients before and after infarction.

Data was insufficient to clearly demonstrate greater interference of problems with activities in the preinfarction or postinfarction period.

Therefore, postinfarction problems associated with sexual

activity and activities of daily living cannot be attributed solely to the infarction event in this population.

The 6th hypothesis postulated that age would not be a factor in resumption of sexual activity. This hypothesis was confirmed since the 14 married patients, all males, reported resumption of sexual activity.

The mean age of patients reporting problems was 49.5 years; 55.6 years was the mean age of patients without problems. An interesting finding was that the 2 youngest patients in the sample were in the group with problems while the 2 oldest patients were in the group without problems.

The 7th hypothesis stated: patients will have definite ideas of what information is necessary in order to adjust sexually. Table 7 presents the data.

TABLE 7
 Information Necessary To Adjust Sexually
 After Myocardial Infarction

Information Item	Number of Patients Preferring the Item (N=14)
When to resume sexual activity	11
How often sexual relations are advisable	10
Time of day sexual relations are advisable	7
Dangers of activity	6
No information is necessary	1
Other	
1. Try not to be as vigorous as before the attack	
2. Safety: i. e. dispel superstition that it is dangerous	
3. No suggestion	
4. Positive approach	
5. Recommend aerobics when supervised by doctor	
6. "Above should be given on basis of patient's unique condition rather than general guidelines"	

Eleven of 14 (78.6%) patients felt they needed to know when to resume sexual activity.

The 2nd most necessary item of information was regarding how often sexual relations are advisable. This was deemed important by

10 of 14 patients (71.4%).

The time of day to have sexual relations was felt to be important by 7 patients (50%).

One patient felt that no information is needed. This 70 year old male had responded earlier in the questionnaire that he did not receive information regarding resumption of sexual activity and felt no information was "adequate" since he needed no information concerning this area of rehabilitation.

One patient checked several of the items listed, then noted at the end of the question, "above should be given on the basis of patient's unique condition rather than general guidelines."

Five patients selected the "other" option. One patient checked this choice, but gave no examples of what he felt other information should be.

One patient stated information should indicate: "try not to be as vigorous as before the attack."

Another patient noted, "safety: i. e. dispel superstition that it is dangerous."

"Positive approach" was the recommendation by a 4th patient.

The 5th suggestion, while being unrelated, was an interesting recommendation: "recommend aerobics when supervised by doctor."

It was confirmed, then, that patients do have definite ideas of what information they believe to be necessary in order to adjust sexually.

The 8th hypothesis was that patients will think the same information provided to them should be provided to their partners.

TABLE 8

Patients' Opinions Regarding Information For Partners

Information Necessary For the Partner	Number of Patients Preferring Item (N=14)
Same information as the patient; receive information together	10
Same information as the patient; receive information separately	2
Partner doesn't need information	1
Partner should receive own special information	2

Ten of 14 patients (71.4%) wanted the same information to be provided to patient and spouse and they should receive information together. One of the 10 patients believed, at times, the partner should receive own special information, noting, "depends on prior relationship." One patient felt the partner needed no information. Two patients felt the partner should receive own special information. One of these was the patient who also said, "depends on prior relationship." The 2nd of these patients did not provide examples of what comprised special information.

Thus, a majority of patients felt that the same information provided to them should be provided to their partners.

The final hypothesis proposed that patients will prefer that health professionals, doctors and nurses, provide the information regarding resumption of sexual activity.

TABLE 9
Actual and Preferred Information Source for
Patients After Myocardial Infarction

Information Source	Number of patients receiving information from source (N=15)	Number of patients preferring source (N=15)
Doctor	15	15
Nurse	6	5
Booklets	9	5
Other patients	1	0
Friends	1	0
Minister	1	0

In responding to the question regarding who provided information prior to discharge from the hospital, 15 patients (100%) received information from the physician. Six patients (40%) were counseled by nurses. Booklets were the source of information for 9 patients (60%).

The preferred source of information by 15 patients (100%) was

the physician. The nurse and booklets were each preferred as a source of information by 5 (33.3%) patients.

The preferred source of information of 5 patients (33.3%) was the same as the source that actually provided information.

Thus, patients strongly preferred 1 health professional, the physician, as the provider of information. The other preferred sources of information were the nurse and booklets, each equally preferred.

TABLE 10

Comparison of Results of Studies on
Sexual Activity and the Patient with Myocardial Infarction

Finding	Current Study	Bloch et al.	Tuttle et al.	Hellerstein & Friedman	Klein et al.	Singh et al.
Most frequent problems associated with sexual activity	chest pain weakness fear of another attack	decrease in sexual desire depression anxiety	angina impotence	excess heart rate angina	non-specific	pain dyspnea fear of recurrent M. I.
Patients receiving information regarding postinfarction sexual activity	53.3%	None reported	33.3%	None reported	None reported	None reported
Mean time span from infarction to resumption of sexual activity	11.5* weeks 5.1** weeks 8.3 ^m weeks			13.7@ weeks 11.7@@ weeks 12.7 ^m weeks		

*Patients not receiving information
**Patients receiving information

^mMean

@Symptomatic patients
@@Asymptomatic patients

Discussion

Table 10 compares the findings of this study and other studies regarding the hypotheses in this study.

This investigation determined that there are common problems which coronary patients experience in adjusting sexually following myocardial infarction. The most common problems were chest pain, weakness, and fear of another attack.

By comparison, Bloch, Maeder, and Haissly found "angina" and "fear of relapse" to be among the problems, but not the chief problems, causing reduction in sexual activity. Weakness was not among their list of problems.¹

Tuttle, Cook, and Fitch noted a "few patients who complained of chest pain associated with sexual intercourse." These investigators suggested that the problem of fear was active in the group under study. There was no report of weakness.²

Singh et al. noted pain and fear to be problems interfering with sexual activity; they did not report the problem of weakness.³

Thus, chest pain and fear are the common problems associated with sexual activity in the postinfarction patient.

This study revealed that patients with myocardial infarction

¹Bloch, Maeder, and Haissly, p. 536.

²Tuttle, Cook, and Fitch, p. 140.

³Singh et al., p. 506.

experienced problems adjusting sexually despite information on sexual activity provided prior to discharge.

Tuttle, Cook, and Fitch concluded that their patients with infarctions experienced difficulties because of lack of information since 1/3 of their patients got vague advice while 2/3 of the patients got no advice.¹

It seems that provision of information regarding sexual activity and the patient with myocardial infarction will not alone prevent problems during sexual activity after myocardial infarction.

The findings from the present study indicated that more patients received information regarding general aspects of rehabilitation than regarding sexual activity. This finding coincided with the findings of Wenger, Hellerstein, Castranova, and Blackburn who found that physicians counseled patients slightly more regarding work, smoking, and diet than regarding sexual activity.²

There were no published studies that provided data regarding specific content of information concerning sexual activity. The results of this study, however, showed that patients most often were counseled regarding when to resume sexual activity.

No investigators reported patients' opinions regarding adequacy of information concerning sexual activity. One study by Pinderhughes

¹Tuttle, Cook, and Fitch, p. 140.

²Wenger et al., p. 512.

et al. did report that 50% of coronary patients felt that information provided about sexual activity was "helpful."¹ In this study, 75% of patients receiving information felt adequately prepared to make decisions regarding sexual activity. 85.7% of patients not receiving information felt inadequately prepared to decide when to resume sexual activity.

This study revealed that postinfarction problems associated with sexual activity were found also to occur in conjunction with activities of daily living.

By comparison, Klein et al. studied postmyocardial infarction problems in general that interfered with sexual activity and with activities of daily living. In their study, patients who experienced problems resulting either in a decrease or in cessation of sexual activity, also either did not return to work or returned to work on a parttime basis. Their research seemed to indicate that problems resulted in both decreased sexual activity and decreased participation in activities of daily living.²

In this study, 50% of patients with problems associated with sexual activity decreased frequency of sexual activity. Likewise, in the study by Bloch, Maeder, and Haissly, problems resulted in a drop in mean frequency of sexual intercourse from 5.2 times per month to

¹Pinderhughes et al., p. 69.

²Klein et al., pp. 144-145.

2.7 times per month. In the same study, while mean frequency of sexual activity decreased by approximately 1/2, 89% of non-retired patients resumed working.¹

The results of this study seemed to demonstrate an influence of problems associated with sexual activity on activities of daily living. Klein et al., also demonstrated that problems influenced both activities of daily living and sexual activity.² Bloch's study noted that problems influenced activities of daily living less than sexual activity.³

Another finding of this study was that problems interfering with postinfarction sexual activity and activities of daily living were present prior to infarction and influenced sexual activity and activities of daily living in the preinfarction period.

Hellerstein and Friedman reported that 41.9% of coronary patients developed symptoms during sexual activity. 26.7% of these patients ceased sexual activity due to problems. In a non-coronary, but coronary prone control group, a group that could be considered representative of patients in the preinfarction period, 12.2% of patients developed symptoms during sexual activity; 40% of these ceased sexual activity as a result of problems.⁴

¹Bloch, Maeder, and Haissly, p. 536. ²Klein et al., p. 144-145.

³Bloch, Maeder, and Haissly, p. 536.

⁴Hellerstein and Friedman, pp. 80-81.

Thus, this study and Hellerstein and Friedman's study both demonstrated that postinfarction problems interfering with sexual activity and activities of daily living can be present in the preinfarction period and can affect preinfarction sexual activity and activities of daily living.

This study indicated that age was not a factor in resumption of sexual activity since all patients, regardless of age, resumed coitus.

The results of Klein et al., indicated that out of 20 patients, 7 did not resume sexual activity. The 7 were among the 9 oldest patients in this study.¹

Thus, age appeared to be a factor in lack of resumption of sexual activity in the study by Klein et al. while it was not a factor in this study.

In this study, patients had definite ideas of what information is necessary in order to adjust sexually. The most important item was when to resume sexual activity.

No published research provides data on information necessary in order to adjust sexually.

There was no evidence in published research of patients being asked if they felt partners should receive information. In this investigator's study, most patients felt their partners should receive the same information they receive. They felt patients and partners

¹Klein et al., p 144-145.

should receive information together.

Finally, this study demonstrated that patients prefer the physician as the principal provider of information. Second preference was the nurse and/or booklets. Preference for the physician was reinforced in the study by Sadoughi et al. who reported that "the majority of [their] subjects indicated preference for a like-sexed medical doctor as the person with whom they would be most willing to discuss medical problems."¹

The summary, conclusions, implications, and recommendations from this study are presented in Chapter 5.

¹Sadoughi, Leshner, and Fine, p. 316.

CHAPTER V

SUMMARY, CONCLUSIONS,
IMPLICATIONS, AND RECOMMENDATIONS

The purposes of this study were: (1) to determine the types of problems that patients experience concerning sexual activity after myocardial infarction, (2) to determine if a relationship exists between these problems and the information regarding sexual activity which is provided to patients prior to discharge from the hospital, (3) to determine the influence of the problems on the patients' decisions concerning sexual activity, (4) to determine if patients receive information regarding other components of rehabilitation more often than information regarding sexual activity, (5) to determine if the problems affecting sexual activity also influence other activities of daily living, (6) if postmyocardial infarction problems interfering with sexual activity and activities of daily living occur, to determine if they existed prior to infarction or developed as a result of the infarction, (7) to determine if age is a factor in sexual adjustment of patients after myocardial infarction, (8) to determine what information the patients and their partners believe they need regarding sexual activity, (9) to identify who patients believe should impart the information, and (10) to identify implications for patient instruction.

Fifteen private patients of 5 internists who had had at least 1 documented myocardial infarction between March 29, 1974 and April

5, 1975 and who met the criteria for selection were included in the study.

These 15 patients responded by mail to a 14-item questionnaire designed by this investigator.

The findings of the study included:

(1) 8 patients had common problems associated with resumption of sexual activity. These problems included, in descending order of frequency--chest pain, weakness, and patient's fear of having another attack, shortness of breath, tiredness, fear of failing to perform sexually, the partner's fear of the patient having another attack, fear of chest pain, and impotence (failing to perform sexually). Six of 14 patients had no problems associated with sexual activity after myocardial infarction.

(2) Patients had problems with sexual activity after myocardial infarction despite information provided prior to discharge. Information did appear to influence the time lapse between myocardial infarction and resumption of sexual activity since patients who received information resumed sexual activity on an average of 5.1 weeks after infarction while patients not receiving information resumed sexual activity at an average of 11.5 weeks after infarction.

(3) All 15 patients received information regarding at least some aspects of general rehabilitation. Eight patients received information regarding sexual activity after myocardial infarction.

(4) Problems interfering with sexual activity after infarction also appeared to interfere with resumption of activities of daily living although data was insufficient to judge whether problems interfered significantly with sexual activity more or less than with activities of daily living. Of patients having problems affecting sexual activity, only 2 patients who resumed sexual activity, decreased the frequency of coitus with onset of problems.

(5) Postinfarction problems existed prior to infarction and interfered with sexual activity and activities of daily living in both the preinfarction and postinfarction periods.

(6) Age was not a factor in resumption of sexual activity since all patients, age 31-70, resumed coitus.

(7) Thirteen of 14 responding patients felt that information was needed by patients. Thirteen of 14 patients also felt the partner needed information. Information preferred, in declining order of preference, was: when to resume sexual activity, how often sexual relations are advisable, time of day to have sexual relations, and dangers of activity.

(8) Patients preferred that information be provided by the physician. The next preferred sources of information were the nurse and booklets.

Conclusions

Patients experience specific, common problems in adjusting

sexually following myocardial infarction. These problems appear to occur independent of discharge information. Information on post-myocardial infarction resumption of sexual activity is presented less frequently than information on general aspects of rehabilitation. In general, problems interfering with sexual activity also interfere with activities of daily living. Problems that occur in conjunction with postinfarction sexual activity and which interfere with sexual activity and activities of daily living, appear to occur in the preinfarction period also. Age does not appear to influence resumption of sexual activity. Patients expect specific information on postmyocardial infarction resumption of sexual activity and expect this information to be provided to both the patient and his/her partner. The preferred sources of information regarding postmyocardial infarction sexual activity are the physician, the nurse, and booklets.

Since only 15 patients of 49 patients in the original sample completed the questionnaire, and all patients returning the questionnaire had resumed sexual activity, it might be concluded that patients not responding were either uncomfortable with the subject or were the patients who had not resumed sexual activity and were unwilling to admit the fact.

Implications for Patient Instruction

As a result of this investigation, the following recommendations regarding patient instruction may be made:

(1) Information should be provided to patient and partner based on data obtained during the interactions of the health team member with each of them and with both of them together. The information presented to them should be based on an awareness of their individual and mutual needs and concerns and should foster communication between patient and partner regarding sexual activity.

(2) General discharge counseling should include information on when to resume sexual activity, advisable frequency of sexual activity, preferable time of day for sexual relations, and dangers of activity. Counseling might also include information on decreased strenuousness of all activity including sexual activity, with specific recommendations of less strenuous coital positions.

(3) The physician or nurse should inform patients of potential problems they might experience in association with postmyocardial infarction sexual activity and should inform them of potential ways of dealing with these problems so that they will not interfere with sexual activity--for example, pre-intercourse nitroglycerine as prophylaxis against chest pain associated with coitus.

(4) Booklets containing information on general rehabilitation as well as on resumption of sexual activity should be provided to patients as an adjunct to physician-nurse counseling.

(5) Patients need to be assured that resumption of sexual activity is possible after myocardial infarction. Health professionals need to create an atmosphere that encourages and allows discussion of this topic.

As a result of literature review in conjunction with this study, other recommendations may be made:

(1) Health team members should become aware of and comfortable with their own sexuality in order to be comfortable in dealing with the sexual concerns of patients.

(2) Reassurance in a positive manner regarding sexuality and sexual activity after myocardial infarction should begin early in the hospitalization, for example, prior to transfer from the coronary care unit.

(3) Information regarding sexual activity should be provided to all patients regardless of age; at no time should an assumption be made that advanced age negatively influences a patient's sexual self-perceptions.

(4) The physician and/or nurse should be alert to patients behavior indicating concern about sexuality--for example, flirtatious behavior, verbalized concern or suggestive remarks, acting out sexually, or masturbation.

Recommendations for Further Study

The following recommendations for further study are made as a result of this investigation:

(1) Because the sample consisted primarily of men, replication of the study using women is recommended in order to determine if the variable of sexual gender is an influence on sexual activity after

myocardial infarction.

(2) Because of the small sample obtained for this study, replication of the study using a larger sample might provide more valid results.

(3) Since use of a sample of private patients probably views a generally higher socioeconomic class, the study might be replicated with a sample of patients of lower socioeconomic class in order to determine if socioeconomic class is an influence on postmyocardial infarction sexual activity.

(4) The study might be replicated using interview rather than mailed questionnaire technique in order to determine if the data collection method is an influence on patient response.

(5) A less structured data collection tool utilizing open-ended questions rather than checklist questions might provide a more specific patient report of problems and preferences since patients could list their own "highlights" rather than being restricted by a list of specific items.

(6) The study might be replicated with angina patients to determine whether myocardial infarction or symptomatic heart disease has a greater effect on post-diagnosis sexual activity.

(7) Based on the finding that patients who receive information regarding sexual activity resume postinfarction sexual activity sooner than patients who do not receive information, a study in which information is provided to 1 group and not to another might verify this study's

result.

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APPENDIX A

Your doctor's name _____

QUESTIONNAIRE

Directions: Below and on the next pages are questions, the answers to which will provide information for the study described to you in the attached letter. Please respond by checking the appropriate space(s). At points within the questionnaire, additional instructions are provided, so, please do not skip any questions unless the directions specify that you do so. When answering questions that require you to compare present activity to activity before your heart attack, consider "before" to be two months before your heart attack. If you have had more than one heart attack, please answer questions with reference to two months before your most recent attack and the time period since this attack.

How many heart attacks have you had? _____

Age _____

Date(s) of your heart attack(s) _____

Marital Status:

Single _____

Married _____

Widowed _____

Sex: Male _____

Separated/ _____

Divorced _____

Female _____

Date of completion of this questionnaire _____

1. A. Prior to your heart attack, did you have any of the following problems? (Please check those items which apply.)

Chest Pain _____

Shortness of breath _____

Weakness noted with activity _____

Becoming tired easily _____

Failure to perform sexually (impotence) _____

Lack of desire for sex(Lack of libido) _____

Other health problems--i. e. arthritis,
high blood pressure, etc. --Please list
the health problems you had. _____

Other _____

1. B. With what areas of your daily living did these problems interfere?

Working around the house _____

Job _____

Leisure activity and recreation _____

Sexual activity _____

Posed no problems with daily living _____

2. Directions for question #2 only: For all parts of question #2 , if you have had only one heart attack, check only those items which apply in the column(s) headed "Recent". If you have had more than one heart attack and you received information during hospitalization for the previous attacks, please indicate previous information by checking the items which apply in the column(s) marked "previous"; then, if you received information at the time of your most recent attack, indicate information received by checking appropriate items in the column headed "recent".

- A. Prior to discharge from the hospital, did you receive information about any of the following?

	Recent		Previous	
	Yes	No	Yes	No
Diet	_____	_____	_____	_____
Physical activity	_____	_____	_____	_____

	Recent		Previous	
	Yes	No	Yes	No
Medication	_____	_____	_____	_____
Pain	_____	_____	_____	_____
Rest and sleep	_____	_____	_____	_____
When to drive a car	_____	_____	_____	_____
When to climb stairs	_____	_____	_____	_____

2. B. Did you receive information regarding resumption of sexual activity?

Recent	Previous
Yes _____	Yes _____
No _____	No _____

(If you responded yes in both columns, please answer parts C and D of this question, then continue to question 3.)

(If you responded no in both columns, please answer only part D of this question, then go on to question 3.)

(If you responded yes in one column and no in the other column, please complete the column in part C which applies to you; then complete part D and continue to question 3.)

2. C. What information was given you regarding resumption of sexual activity?

	Recent	Previous
When to resume sexual activity	_____	_____
How often sexual relations were advisable	_____	_____

	Recent	Previous
Time of day to have sexual relations	_____	_____
Positions for sexual activity	_____	_____
Dangers of sexual activity	_____	_____
Safety of sexual activity	_____	_____
Other (please specify)	_____	_____

2. D. From what source(s) did you receive information (about any aspect of your recovery)?

	Recent	Previous
Your doctor	_____	_____
Nurse	_____	_____
Other patients	_____	_____
Friends	_____	_____
Minister	_____	_____
Booklets	_____	_____
Other (Please specify)	_____	_____

3. Have you now resumed sexual activity with your partner?

*Yes _____

No _____

(If you answered yes, how long after the heart attack (most recent or only attack) did you resume activity?)

(If your answer to question 3 was yes, answer questions 4-8 and 11-14.)

(If your answer to question 3 was no, answer questions 9-14.)

***Reminder: If you have had only one heart attack, answer the remaining questions as you have answered questions 1-3--with reference to your only attack. To those of you who have had more than one heart attack, answer the remainder of the questions with reference to your most recent attack.

4. Do you feel you received adequate information prior to hospital discharge in order to make the decision to resume sexual activity?

Yes _____

No _____

5. A. How sexually active were you prior to your heart attack?
How sexually active would you consider yourself now?

	Before	After
Three or more times per week	_____	_____
An average of once per week	_____	_____
Two or less times per month	_____	_____

	Before	After
No activity at all	_____	_____
Other(Please specify)	_____	_____

6. Having resumed sexual activity, have you had any of the following problems during activity?

Chest pain	_____
Shortness of breath	_____
Weakness	_____
Too tired	_____
Failing to perform sexually(impotence)	_____
Fear of failing to perform sexually	_____
Your fear of having another heart attack	_____
Your partner's fear of you having another heart attack	_____
Fear of having chest pain	_____
No problems	_____
Other problems(Please specify)	_____

6. B. If any of the above problems interfere with other activities in your daily life, note which problems interfere and also note the specific areas of your life with which the problems interfere - i. e. chest pain interferes with climbing stairs.

-
-
7. As a result of any of these problems, how have you responded?

Have had no problems _____

Continue sexual activity--have maintained
this level _____

Continue sexual activity--have increased
this activity _____

Continue sexual activity--have decreased
this activity _____

Stopped sexual activity _____

8. If you have continued sexual activity, do any problems persist?

*Yes _____

No _____

*(If you answered yes to the above, please
list the persisting problems--i. e. chest pain.)

-
-
9. If you have not yet resumed sexual activity since your heart
attack, what are the reasons?

Chest pain _____

Shortness of breath _____

Weakness _____

Too tired _____

Fear of failing to perform sexually (impotence) _____

Failing to perform sexually _____

Fear of having another heart attack _____

Your partner's fear of you having another heart attack _____

Other health problems(i. e. Arthritis)
Please list other problems: _____

On advice of your doctor _____

Lack of Libido(Interest in sex) _____

Lack of information prior to discharge regarding resumption of sexual activity _____

Other(Please specify) _____

10. How sexually active were you prior to your heart attack?

Three or more times per week _____

An average of once per week _____

Two or less times per month _____

No activity at all _____

Other (Please specify) _____

11. Which of the following other activities have you resumed?

Returned to job _____

Climbing stairs _____

Housework _____

Driving a car _____

Yard work _____ Other _____
 Leisure activity _____

12. What information do you think a patient should receive regarding sexual activity after heart attack?

When to resume activity _____

How often sexual relations are advisable _____

Time of day to have sexual relations _____

Dangers of activity _____

No information is necessary _____

Other(Please add your suggestions) _____

13. What sources would you prefer to provide information regarding resumption of sexual activity after heart attack?

Your doctor _____ Friends _____

Nurse _____ Booklets _____

Other patients _____ Other(Specify) _____

Minister _____ _____

14. What information do you think your partner should receive regarding sexual activity after heart attack?

Same information as the patient--you and your partner should receive information together. _____

Same information as the patient--partner should receive information separate from the patient. _____

Partner doesn't need information--the
patient is the only one who needs information _____

Partner should receive own special information.
(If you specified this last item, I would welcome
suggestions from you on what special information
might be necessary.) _____

THANK YOU FOR PARTICIPATING!

Please feel free to use the space below for comments,
questions, criticisms, and/or additional information
you may wish to add.

APPENDIX B



Dear

My name is Brenda Long, R.N. I am the former nursing supervisor of the Coronary Care Unit at Mary Washington Hospital. Currently, I am engaged in graduate study at the Medical College of Virginia.

One of the requirements for a masters degree in nursing is conduct of a research study. In an effort to satisfy this requirement, I am seeking to study a problem of general concern to coronary patients in an attempt to develop educational information for future coronary patients. The problem I have selected to study is "The Sexual Adjustment of Patients Following Heart Attack". Your responses on the enclosed questionnaire would be most helpful in the conduct of this research.

Please be assured that your anonymity will be preserved. However, in the conduct of human research, the federal government requires that anyone participating must sign a statement of informed consent. You will find such an agreement enclosed. To guarantee your privacy, 2 self-addressed, stamped envelopes are enclosed, 1 in which to return your consent form and 1 in which to return your completed questionnaire. By returning these separately, in no way will it be possible to identify which consent form goes with any 1 questionnaire. The signed consent form will be seen only by me.

Because you have had at least 1 heart attack, you have been selected to participate in this study. The study has been discussed with your physician and he endorses it. You may feel free to verify this fact with your physician.

Your participation in the study by completion of the questionnaire will be most appreciated. Please endeavor to return the completed questionnaire by September 1, 1975.

If you have any questions, please do not hesitate to phone me on Thursday evenings between the hours of 6 p.m. and 10 p.m. at the following phone number: . When calling, to preserve your anonymity, you need not give your name.

Once again, I will appreciate your participation in my study. If you would like a summary of the results of this study, please indicate this on the form below and enclose it with your consent form.

Yours very truly

(Mrs.) Brenda H. Long, R.N.

I hereby endorse the conduct of this research.

(Signed) _____

Yes, I would like a summary of the study results.

Name _____

Address _____

APPENDIX C

PERMISSION TO CONDUCT RESEARCH

I, _____ M. D.

having reviewed the research proposal, "Sexual Adjustment After Myocardial Infarction, " hereby grant my permission to Brenda Long, R. N. to contact any of my patients in the conduct of her research.

(Signed) _____ M. D.

(Date) _____

APPENDIX D

INFORMED CONSENT

The study, "Sexual Adjustment After Heart Attack," has been explained to me by letter. I have examined the questionnaire, and I understand that the questions relate to problems and concerns patients have regarding sexual activity following heart attack. I further understand that questionnaire results will be compiled to serve as a basis for developing educational information for future heart attack patients. I have verified any questions via a phone call to the number provided in the attached letter. I, therefore, agree to participate in this study by responding to the questionnaire. I realize that both my name and the information I provide on the questionnaire will be kept confidential.

(Signed) _____

(Date) _____

APPENDIX E

Follow-up Postcard

REMINDER: Recently, you received a packet of material in which you were asked to participate in a study concerning problems following your heart attack. If you have not responded, I would be most grateful if you would do so. If you wish to respond, and either you did not receive a packet or you have misplaced the original packet, please call me at the phone number appearing below, so a new packet can be sent.

Thank you,

Brenda H. Long, R.N.



APPENDIX F
PATIENT PROFILES
PATIENT 1

Patient 1 was a 53 year old, married male who reported having had 3 myocardial infarctions. He failed to give the dates of these infarctions.

Prior to myocardial infarction, patient one reported problems associated only with arthritis and high blood pressure, but responded that these problems did not interfere with activities of daily living.

He affirmed having resumed sexual activity with his partner at "three or four months" following his infarction.

Sexual activity was reported by the patient to have changed from 3 or more times per week to 2 or less times per month. The problems associated with sexual activity, reported by this patient were: (1) chest pain, (2) shortness of breath, (3) weakness, (4) too tired, (5) impotence, (6) fear of failing to perform sexually, and (7) fear of chest pain. These problems were contributory to the patient decreasing sexual activity. Chest pain and shortness of breath were stated to be the persistent problems that continued in association with sexual activity.

Despite all reported problems, patient 1 claimed none of the problems interfered with activities of daily living. He disclosed

having (1) returned to work, (2) resumed yard work, (3) returned to leisure activity, and (4) resumed driving a car.

In response to questions regarding information provided prior to discharge, this patient answered only with reference to previous infarctions. He reported receiving information on medication and pain. He received no information on: diet, physical activity, rest and sleep, when to drive a car, when to climb stairs, and resumption of sexual activity.

This patient responded "no" to the question, "do you feel you received adequate information prior to hospital discharge in order to make the decision to resume sexual activity?"

The information deemed necessary by patient 1 was, (1) when to resume sexual activity, (2) how often sexual relations are advisable, (3) time of day for sexual relations, and (4) dangers of activity.

The personal physician and booklets were preferred by this patient as resources of information for the patient and his partner, who should receive information together.

PATIENT 2

Patient 2 was a 70 year old married male. He had had 1 myocardial infarction, this occurring on March 24, 1975.

The only problem he reported prior to infarction was becoming tired easily, but he reported no interference with activities of

daily living, including sexual activity.

He reported resuming sexual activity at 2 months after infarction with no problems associated with this activity. He gave "maybe once a month" as the frequency of sexual activity after infarction, but he did not specify the frequency of sexual activity before the infarct.

Regarding other activity in addition to sexual intercourse, this patient reported resuming housework, yard work, driving a car and resuming work patterns.

Prior to discharge from the hospital, information was provided to this patient concerning diet, physical activity, medication, pain, rest and sleep, when to drive a car, and when to climb stairs. He received no information on sexual activity.

The sources of pre-discharge information were this patient's physician and booklets.

In response to the question regarding adequacy of information for making decisions regarding sexual activity, this patient responded that he "needed none." He responded that after myocardial infarction, no information is needed regarding sexual activity, but that any information should come from the physician. There was no response given regarding information that the spouse (partner) should receive.

PATIENT 3

Patient 3 was a 54 year old female who had her first myocardial infarction on December 6, 1974.

Prior to the heart attack, this patient had problems with weakness noted with activity, becoming tired easily, and with diabetes. These problems interfered with working around the house, with the job, and with leisure activity and recreation.

The patient provided no answers to questions regarding sexual activity, re-emphasizing that she was divorced.

She reported having returned to her job, house and yard work, leisure activity, climbing stairs, driving a car, and "ministry and singing music."

Prior to discharge from the hospital, this patient accounted receiving information about diet, activity, medication, pain, rest and sleep, when to drive a car, and when to climb stairs. She did not receive information on sexual activity.

The patient disclosed that sources of information at the time of discharge were the physician, nurse, friends, minister, and booklets.

There was no response concerning adequacy of information or the type of information necessary for patients, although she noted that whatever the information, the patient and partner should receive it together.

She indicated the physician to be the preferred source for

information.

PATIENT 4

Patient 4 was a 59 year old man who reported a history of 3 myocardial infarctions: July-1973, July-1974, and August-1975.

Prior to infarction, he reported problems with chest pain and "high blood pressure," but responded that these problems did not interfere with sexual activity or other activity.

He claimed to have resumed sexual activity, but did not give the time that elapsed between infarction and resumption of activity.

Frequency of sexual activity before myocardial infarction was disclosed to be 3 or more times per week; the postinfarction frequency was reported as once per week. The problems reported by the patient were chest pain, and fear of another coronary, although these problems were not noted to be particularly associated with sexual activity. Chest pain was reported to interfere with stair climbing. Despite problems, the patient stated he was maintaining the level of frequency of sexual activity. He also reported having resumed yard work, leisure activity, and driving a car.

Reporting on the most recent myocardial infarction, the patient reported receiving information on diet, physical activity, medication, and pain. He reported receiving no information on rest and sleep, when to drive a car, when to climb stairs, and regarding resumption of sexual activity. The patient did not respond on information provided at the time of the previous infarction with the

exception of information on sexual activity, stating that he did receive this information which included information on when to resume sexual activity, how often sexual relations are advisable, time of day for sexual relations, positions for sexual intercourse, and dangers of sexual activity.

In both instances, information was provided by the physician and the nurse. Booklets were a source of information at the time of previous infarctions.

The patient responded affirmatively to the question of adequacy of information about resumption of sexual activity.

He responded that information regarding sexual activity should include when to resume sexual activity, how often sexual relations are advisable, and the time of day advisable for sexual relations. Adding a personal response, this patient felt that patients should be counseled to "try not to be as vigorous as before the attack." Information was felt to be necessary for the patient and partner together.

The physician, nurse, and booklets were the preferred sources of information.

PATIENT 5

A 52 year old married male was the 5th patient. His responses were based on his first myocardial infarction.

Prior to infarction, the patient reported problems with chest

pain, weakness, and tiring easily. The problems interfered with working around the house, with the job, with leisure activity, and with sexual activity.

Frequency of sexual activity was disclosed only for the pre-morbid period. This was reported to be an average of once weekly.

Problems associated with sexual activity were revealed to be chest pain, weakness, tiredness, the patient's fear of having another infarction, and the patient's fear of having chest pain. The only activity other than sexual activity with which problems interfered was climbing stairs. These problems were reported as not having persisted.

Despite problems, in addition to having resumed sexual activity, the patient reported having returned to the job, to housework, yard work, and leisure activity, and to climbing stairs and driving a car.

Prior to discharge from the hospital, the patient received information on diet, activity, medication, pain, and rest and sleep. He did not receive information on sexual activity. The information was provided by the doctor, nurse, and booklets.

The patient felt he did not receive adequate information in order to make the decision to resume sexual activity.

The information deemed necessary was when to resume sexual activity, how often sexual relations are advisable, time of day for sexual relations, and dangers of activity. It was felt the information should be provided to patient and partner together.

Preferred sources of information were the doctor or nurse.

PATIENT 6

Patient 6 was a 58 year old married male with his first myocardial infarction.

He reported no problems prior to infarction.

Resumption of sexual activity occurred at 60 to 90 days after infarction. Premorbid and postinfarction levels of sexual activity were the same--2 or less times per month.

This patient also related no problems associated with sexual activity after infarction.

Activities resumed in addition to sexual activity included job, leisure activity, climbing stairs, and driving a car.

Prior to discharge from the hospital, information was provided on diet, physical activity, medication, pain, and sexual activity. It also included information on when to drive a car and when to climb stairs. No information was provided regarding rest and sleep. The specific information provided on sexual activity was information on its safety.

The sources of information were the doctor and booklets. The question regarding adequacy of information as a basis for the decision to resume sexual activity was responded to with a yes.

The preferred content of information regarding sexual activity was stated: discuss "safety: i. e. dispel superstition that it is

dangerous."

Regarding who should receive information and in what circumstances, this patient responded, "why not ask the couple which they prefer."

The doctor and booklets were seen as the preferred sources of information.

PATIENT 7

Patient 7, a 42 year old married man, responded based on experiences with his first myocardial infarction.

The patient had no problems prior to infarction.

Sexual activity was resumed at 1 month after myocardial infarction. Frequency of sexual activity was an average of once per week prior to infarction. No postinfarction frequency was reported.

The problems associated with postinfarction sexual activity were the patient's fear of having another attack and also the partner's fear of the patient having another attack. The patient disclosed that the problems resulted in a decrease in frequency of sexual activity. The persistent problem was reported to be "partner's fear."

The problem of fear affected this patient's general activities since he stated that his fear caused him to restrict himself from heavy exertion. He reported having returned to work, to light yard work, and to leisure activity. He also reported resuming

climbing stairs and driving a car.

Prior to hospital discharge, this patient reported receiving information on diet, activity, medication, pain, rest and sleep, when to climb stairs, and on sexual activity. The specific information on sexual activity was when to resume sexual activity. No information was provided to this patient on when to drive a car.

The physician was the source of this patient's discharge information.

The patient did not feel he received adequate information in order to make the decision to resume sexual activity.

Preferred information by this patient regarding sexual activity was felt to include when to resume sexual activity, how often sexual relations are advisable, time of day to have sexual relations, and dangers of activity. It was felt that the partner should receive special information, but the patient did not elaborate on what this information should be.

The physician was preferred as the only source of information.

PATIENT 8

Patient 8 was a 38 year old married male who reported having had one infarction.

The only problem listed prior to myocardial infarction was borderline diabetes. It had no effect on sexual activity or on other activities.

Resumption of sexual activity occurred at 5 weeks after infarction. The pre-morbid level of sexual activity was 3 or more times per week. The postinfarct level dropped to an average of once per week.

The patient recounted the problem of impotence, yet he continued sexual activity, the problem having not persisted.

Impotence did not interfere with other activities. Activities resumed in addition to sexual activity included work, yard work, and leisure activity in addition to climbing stairs and driving a car. Also, the patient reported being involved in a physical activity program (weights) 3 times per week and running 2 miles 3 times per week.

Prior to discharge from the hospital, information was provided to this patient on diet, activity, medication, and pain. Information was also provided on rest and sleep, when to drive a car, and when to climb stairs. In addition, information on resumption of sexual activity was provided. Included in the information were explanations of when to resume sexual activity and positions for sexual activity.

Discharge information came from the physician, nurse, and booklets.

This patient felt he received adequate information in order to decide to resume sexual activity.

The necessary content of information was felt to be when to resume sexual activity and how often sexual relations are advisable.

Patient 8 felt information should be provided to the patient and partner together.

The physician alone was preferred as the information source regarding sexual activity.

PATIENT 9

Patient 9, another patient experiencing his 1st myocardial infarction, was a married male, age 52.

Shortness of breath and tiring easily were problems occurring prior to infarction, but the patient reported no interference with activities of daily living.

He revealed having resumed sexual activity at 1 month after infarction. The level of sexual activity before infarction was reported as an average of once per week. No reply was given regarding this patient's postinfarction level of sexual activity.

This patient had no problems associated with postinfarction sexual activity. Therefore, there were no problems to interfere with activities in addition to sexual activity.

Other activities resumed in addition to sexual activity were the job, yard work, leisure activity, climbing stairs, and driving a car.

Prior to discharge from the hospital, patient 9 claimed to have received information on diet, activity, medication, pain, rest and sleep, and sexual activity. He received no information on when to climb stairs or when to drive a car. Regarding information on

sexual activity, the specific content of information was how often sexual relations are advisable.

The source of discharge information was the physician.

Information on sexual activity was not deemed adequate by this patient.

It was felt that content of information on sexual activity should include when to resume sexual activity, how often sexual relations are advisable, and dangers of activity.

Information was felt to be necessary for patient and partner together.

Preferred sources of information were the doctor and the nurse.

PATIENT 10

Patient 10 was a 31 year old married male with his first myocardial infarction.

Prior to infarction, he had problems of chest pain, shortness of breath, weakness associated with activity, and tiring easily. These problems interfered with working around the house, with the job, with leisure activity, and with sexual activity.

This patient reported resuming sexual activity at 5 weeks postinfarction. The pre-morbid frequency was 3 or more items per week. This level was the same after infarction.

Postinfarction problems associated with sexual activity were

chest pain, shortness of breath, and weakness. Despite these problems, the level of sexual activity was maintained, even with persistence of the chest pain, shortness of breath, and feeling "sick sometimes."

The problem of shortness of breath interfered also with walking. The patient disclosed having returned to "some" yard work, "some" stair climbing, and driving a car.

Prior to discharge from the hospital, this patient received information on diet, activity, medication, pain, and rest and sleep. Information was also provided on when to drive a car and when to climb stairs. In addition, information was provided on sexual activity, specifically, when to resume sexual activity, how often sexual relations are advisable, and safety of sexual activity.

Sources of discharge information were the doctor and booklets.

This patient felt the information provided regarding sexual activity was adequate.

The items deemed necessary by this patient to be included in information on sexual activity were when to resume sexual activity and how often sexual relations are advisable.

He felt that information should be provided to patient and partner together, but sometimes separately.

The doctor was the only preferred information source for this patient.

PATIENT 11

The 11th patient was a 53 year old married male with his first infarction.

Prior to infarction, he recounted problems of chest pain-- "rarely," becoming tired easily--"in two months prior to attack," and "swelling feet." The problems, however, did not interfere with activities, including sexual activity.

Sexual activity was resumed at 3 weeks by this patient. The frequency of sexual activity was the same before and after infarction-- 3 or more times a week.

No problems associated with sexual activity were reported by this patient, thus the initial postinfarction level of sexual activity was maintained.

With regard to problems associated with other activities, this patient described "slight chest pain after running/trotting approximately 150-175 paces," "memory not as sharp--mind unclear at times," and a 30 pound weight gain "due to no smoking." Despite problems, this patient reported having resumed work, housework, yard work, and leisure activity, climbing stairs, and driving a car. In addition, the patient reported resuming hunting, fishing, boating, rowing and hiking, and tennis (infrequently). He also reported resuming sawing-splitting wood for the fireplace and hauling wood.

Prior to hospital discharge, this patient stated he received

information on diet and activity, medication and pain, rest and sleep, when to drive a car, and when to climb stairs. In addition, this patient reported receiving information on smoking. He also reported receiving information on sexual activity, specifically on when to resume sexual relations and positions for sexual relations.

Information was reported to have been provided by the physician and nurse.

This patient claimed that the information he received prior to discharge from the hospital was adequate in order to make the decisions regarding resumption of sexual activity.

Regarding information about sexual activity, this patient felt the items to be included should be when to resume sexual activity, how often sexual relations are advisable, time of day to have sexual relations, and dangers of activity. The patient added that information "should be given on basis of patient's unique condition rather than general guidelines." He felt that the patient and partner should receive information separately. With regard to the partner's unique information, the patient wrote the following comments:

It has been my experience that too much caution was shown by doctor-nurses to the extent my family and friends still appear to fear for me. I can't find anyone hardly to play tennis. My family shows more reservations than I think my case deserves. I believe family/friends should be cautioned to let the patient find his own limits and permit her/him to build back to nearly normal as can. I see many others who have had heart problems and have withdrawn from active lives out of counseled fear. They should be encouraged to do more depending on their unique limitations known by M. D.

The doctor, nurse, and/or booklets were all listed as preferable sources for the provision of information regarding resumption of sexual activity.

PATIENT 12

Patient 12 was a 55 year old male, married and with a history of 2 myocardial infarctions.

Prior to infarction, this patient had no problems so he was able to carry on activities of daily living without difficulty.

Reporting on his 2nd infarction, he reported having resumed sexual activity at 3 months. The preinfarction level of sexual activity was unchanged after infarction.

Upon resumption of sexual activity, this patient's only problem was his partner's fear of the patient reinfarcting. This problem was reported to have not persisted and thus, the initial postinfarct level of sexual activity was maintained.

In conjunction with activities other than sexual activity, the patient disclosed the following interfering problem: "mainly my fear of attack and my perception of how others feel about my ability to perform." Despite this problem, the patient reported resuming work, yard work, leisure activity, stair climbing, and driving a car.

Recounting discharge information provided with both infarctions, in both instances, the patient received information on diet, activity, medication, pain, rest and sleep, when to drive a car, and when to

climb stairs. In neither instance was information provided regarding sexual activity. In both instances, the sources of information were the doctor, other patients, and booklets.

The patient felt his information was inadequate in order to make decisions about resumption of sexual activity.

Concerning necessary content for information regarding post-myocardial infarction sexual activity, this patient's only recommendation was to use a "positive approach." He felt the patient and partner should receive separate information depending "on prior relationship."

The preferred sources of information were the doctor, nurse, and booklets.

PATIENT 13

Patient 13 reported having had 4 myocardial infarctions. He was a 56 year old married male.

Prior to infarction, he reported problems of chest pain, weakness, and tiring easily. He also reported problems of high blood pressure, "prostate," and "epididymitis."

These problems influenced the patient's ability to work around the house, to carry on his job, and to perform sexually.

Sexual activity was resumed at 3 months after the infarction. The postinfarction frequency of sexual activity was two or less times per month compared to an average of once per week before infarction.

This patient disclosed persistent problems of chest pain, but did not comment on whether the problem resulted in change of frequency of sexual activity.

He reported also having problems with "walking, any amount of moving arms, getting in/out of bath tub, in and out of car." Activities resumed were only leisure activity and short drives.

In reference to all hospitalizations, prior to discharge from the hospital, this patient received no information on sexual activity. He did receive information on diet, activity, medication and pain, rest and sleep, when to climb stairs, and when to drive a car. The sources of this information were the doctor, nurse, and booklets.

Due to no information, the patient did not feel adequately prepared to make decisions regarding resumption of sexual activity.

This patient felt information regarding sexual activity should include information on when to resume sexual relations, how often sexual relations are advisable, and time of day for sexual relations. He felt that only the patient should receive discharge information; the partner was felt to not require information.

The physician only was preferred as information source.

PATIENT 14

The 14th patient was a 42 year old married man who had had only 1 myocardial infarction.

He reported no problems prior to infarction.

The time for resumption of sexual activity was not given, but the patient stated he had resumed sexual activity. The pre and postinfarct level of sexual activity were the same--3 or more times per week.

The patient reported no problems associated with postinfarction sexual activity. He also reported having resumed all activities, "same as before attack."

This patient reported receiving no information from health professionals associated with the hospital studied; he stated that he received all information from a private physician in a different city. As a result, he felt his discharge information regarding sexual activity was inadequate.

Information deemed necessary as part of counseling regarding sexual activity included when to resume sexual activity and the advisable time of day for sexual relations. It was felt that the patient and partner should receive information together and this information should be provided by the physician.

PATIENT 15

Patient 15 was a 61 year old married male. He reported on his 1st myocardial infarction.

Prior to infarction, he reported no problems, thus being engaged in all activities of daily living.

This patient claimed to have resumed sexual activity at 5 weeks

after infarction. He reported only a preinfarction level of sexual activity--3 or more times per week.

There were no problems associated with postinfarction resumption of sexual activity. He reported having resumed work, yard work, leisure activity, climbing stairs, and driving a car.

Prior to hospital discharge, this patient related receiving information on diet, activity, medication, pain, and rest and sleep. Information was also provided on when to climb stairs and when to drive a car. In addition, information was provided on postinfarction sexual activity. This information was only regarding when to resume sexual activity. Information was provided by the physician.

Information on resumption of sexual activity was deemed adequate by this patient.

The patient recommended that patients and partners together should receive information. The information should come from the physician and should include when to resume sexual activity, advisable frequency of sexual relations, and recommended time of day for sexual relations.

Appendix G

Incidence of Information Patients Received Concerning Rehabilitation After Myocardial Infarction

Patient (N=15)	Diet	Physical Activity	Medication	Pain	Rest & Sleep	Driving a car	Stairs	Sexual Activity
# 1	x	x			x	x	x	
# 2	x	x	x	x	x	x	x	
# 3	x	x	x	x	x	x	x	
# 4	x	x	x	x				x
# 5	x	x	x	x	x	x	x	
# 6	x	x	x	x		x	x	x
# 7	x	x	x	x	x		x	x
# 8	x	x	x	x	x	x	x	x
# 9	x	x	x	x	x			x
#10	x	x	x	x	x	x	x	x
#11	x	x	x	x	x	x	x	x
#12	x	x	x	x	x	x	x	
#13	x	x	x	x	x	x	x	
#14								
#15	x	x	x	x	x	x	x	x