

SEXUAL ACTIVITY INFORMATION NEEDS OF THE
CARDIAC PATIENT AND SPOUSE

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CHAPTER I

INTRODUCTION

Sex is a taboo word, yet an integral part of human nature. For man is a sexual being. He has sexual needs which must be met if he is to achieve his optimal level of functioning. However, in caring for the cardiac patient, his sexual information needs are often not recognized by nurses or other members of the health team.

During the discharge teaching of the cardiac patient, sexual activity is seldom discussed although other activities, such as driving, climbing stairs, and returning to work, may be. Possible reasons why the health worker avoids sex counseling include: (1) the lack of literature about the sex information needs of the cardiac patient, (2) ignorance of or disinterest in the topic, and (3) embarrassment in discussing the topic. Regardless of the reason, it is the cardiac patient and his spouse who may suffer in the end.

It is well known that cardiac patients and their spouses have questions, concerns, and fears about the resumption of sexual activity. "Death in the saddle" is a common fear. They live in fear of sexual activity because of insufficient knowledge of the facts. Adequate

sex counseling prior to discharge can prevent needless fears, prolonged abstinence, and sexual tension.

For teaching to be effective, it is important to base the content upon what the learner wants to know; not upon what the nurse thinks he wants to know. This descriptive survey identified the sex information needs of the cardiac patient and his spouse.

STATEMENT OF THE PROBLEM

The problem was to determine what cardiac patients and their spouses want to know regarding the resumption of sexual activity after hospital discharge.

STATEMENT OF PURPOSES

The purposes of this study were:

1. To determine the possible information that cardiac patients and their spouses might want to know regarding the resumption of sexual activity
2. To have the study population categorize the tool items according to their perception of importance or value
3. To analyze and report the data in terms of the ten most and ten least important sexual information needs of cardiac patients and their spouses regarding the resumption of sexual activity after hospital discharge

CONCEPTUAL FRAMEWORK

This investigation was constructed on the basis of two central concepts: 1) human sexuality and 2) the rehabilitation of the cardiac patient. Broderick and Bernard's (1969) stages of socio-sexual development were used to explain how an individual's sexual development occurs from birth on as an integral part of personality development. They described the following phases of normal socio-sexual development:

1. Pre-school years (0-6 years)

"For better or worse, the foundations of a child's basic concept of himself as a sexual being are laid in the often unintentional but powerful teaching that goes on during the pre-school years" (Broderick and Bernard 1969, p. 24). The child's ability to relate to the opposite sex is determined in these early years by three factors:

- a. How the child sees himself as a member of his own sex
- b. Early experiences with the parent of the opposite sex
- c. The child's early thoughts about marriage

2. Middle Childhood (6-12 years)

"Role discomfort" is experienced and the children begin to segregate. They try to determine their role expectations and become aware of the significance of social rules for sexual behavior. Boy-girl "get togethers" represent an important activity as the young boy or girl gets to practice his or her skills at relating to the opposite sex as he/she will in later years, without the risk of being rejected or leading to more serious emotional involvement.

3. Adolescence

At this phase of development, the adolescent questions social mores. Now is the fragile period in which understanding and guidance is needed for decision making about heterosexual interactions. "The over-riding question of adolescents is 'What part ought sex to play in my life now?'" (Broderick and Bernard 1969, p. 31). Society seems to urge them to marry, as this has been instilled in them since birth. The boy tries to be as physically intimate as the girl will allow, while the girl tries to obtain as much emotional and social commitment as she can. These young adults learn new social skills of sensitivity to others and acquire a greater self-understanding.

4. After High School-Before Marriage

There is much bargaining related to the "intimacy-commitment" cycle--it is a time for "playing games" and planning strategies.

There is particular concern for the impact of present behavior upon eventual marriage, and both boys and girls are concerned with finding that balance of sexual expression and sexual restraint which leads to the best marital union."
(Broderick and Bernard 1969, p. 34)

During this period of dating, the individual learns how to reject relationships that are exploitive and seek out those relationships which are based on mutual trust and concern. "Thus, it may be that the almost universal goal of marriage is itself one of the chief factors in the development of positive relationships between the sexes" (Broderick and Bernard 1969, p. 34).

5. Early in Marriage

This is a time for increased sexual satisfaction and, for some, an increase in sexual knowledge. A woman's sexual responsiveness increases during the first decade of marriage. The information needed by the couple at this stage includes:

- a. The erotic capability of one's self and one's partner and how to take advantage of it
- b. The dynamics of human relationships (how to "give and take")

c. The necessity of a positive attitude towards one's own and one's partner's sexuality

6. Middle Age

This stage is marked by a decrease in sexual powers, a decrease in physical condition, and an increase of unflattering physical changes. There may be sexual problems associated with a decreased self-esteem and decreased self-confidence. Because there may be less satisfaction from marriage, it is the time for spouses to possibly seek an extramarital affair. This is also the time for menopause which in itself leads to physical and emotional stresses.

7. Later Years

There is a diminished ability for men to have intercourse but they still have real sexual needs. Aging women also show signs of aging in their sexual organs (i.e. a decrease in lubrication), but they too still have real sexual needs.

Widows and widowers are in a poor position to find a legitimate sexual partner. Unmet sexual needs of the aging are unfortunately shunned or laughed at by society. Plans for remarriage are often disapproved.

In summary, according to Broderick and Bernard (1969), "a sexual relationship is an interpersonal

relationship, and, like other interpersonal relationships, is affected by social, psychological, physiological, and cultural forces" (p. 119).

Borgman's (1975) stages of coronary rehabilitation were utilized to explain the role of nursing in returning the cardiac patient back to his normal life style, and the importance of recognizing sexuality in cardiac rehabilitation was noted.

Sex is intricately woven into all phases of living. Patient happiness and successful reentry into family dynamics depends greatly on the way in which he fulfills his sex role and redirects his sexuality. (Borgman 1975, p. 19).

Borgman (1975) divided coronary rehabilitation into four phases:

PHASE ONE--Acute Care

Nursing care is geared toward prevention of life-threatening problems. It is a time of fear and anxiety for the patient and his family. "The nurse needs to give a hopeful but realistic appraisal of the future" (Borgman 1975, p. 16).

PHASE TWO--Remainder of Hospitalization

Patient teaching is the main concern at this time. Topics include medications, diet, sexual activity, and exercise. "Most patients will experience overt and covert

thoughts concerning their sexual roles and ability"

(Borgman 1975, p. 18).

PHASE THREE--Home Convalescence

Nursing care should ensure continuity of care at home. This requires thorough discharge teaching with the patient and his family. The role of the community nurse is to reinforce changed behavior and health emphasis. The patient's most prevalent learning needs are related to exercise and sexual activity.

PHASE FOUR--Recovery Maintenance

In this stage, the patient takes the major responsibility for his health maintenance although the health team is always available.

BACKGROUND AND SIGNIFICANCE

According to Sutterley and Donnelly (1973), "Sexuality might best be understood as a life force, or in its broadest sense, a deep pervasive aspect of the total personality, the sum total of one's feelings and behavior" (p. 128). Sexuality is an integral part of life. It is essential to recognize the patient's sexual needs in the total-person approach to patient care. Krizinofski (1973) questioned ". . . if you don't include sex counseling in your health teaching, then how can you say you believe sex

is a part of the natural physiologic functioning of the human being?" (p. 673). Watts (1976) asserted that patients cannot be restored to optimal physiologic and psychologic functioning if their sexual needs are ignored by the health professional caring for them.

The prevalence of heart disease in the middle years is great. Hurst (1974), citing the World Health Organization's Vital Statistics and Causes of Death, stated that coronary artery disease (C.A.D.) affects four out of every one thousand white males between the ages of 35 to 44, ten out of every one thousand white males between the ages of 45 to 54, and twenty out of every one thousand white males between the ages of 55 to 64 years. Hurst (1974) also depicted the prevalence of C.A.D. among adults of both sexes in the graph "Heart Disease in Adults," a U.S. Public Health Service Publication, as rising steadily from 30 on to reach a peak at 70 years of age, after which it declines (figure 1). Scheingold and Wagner (1974) stated that:

in the 45 to 64 age group, the rate of heart attacks and other forms of heart disease is much greater among men than among women (677.7 men out of 100,000 as compared to 231.4 women out of 100,000 have heart disease in this age group). After 56, however, the rates come closer to being equal for both sexes. (p. 15)

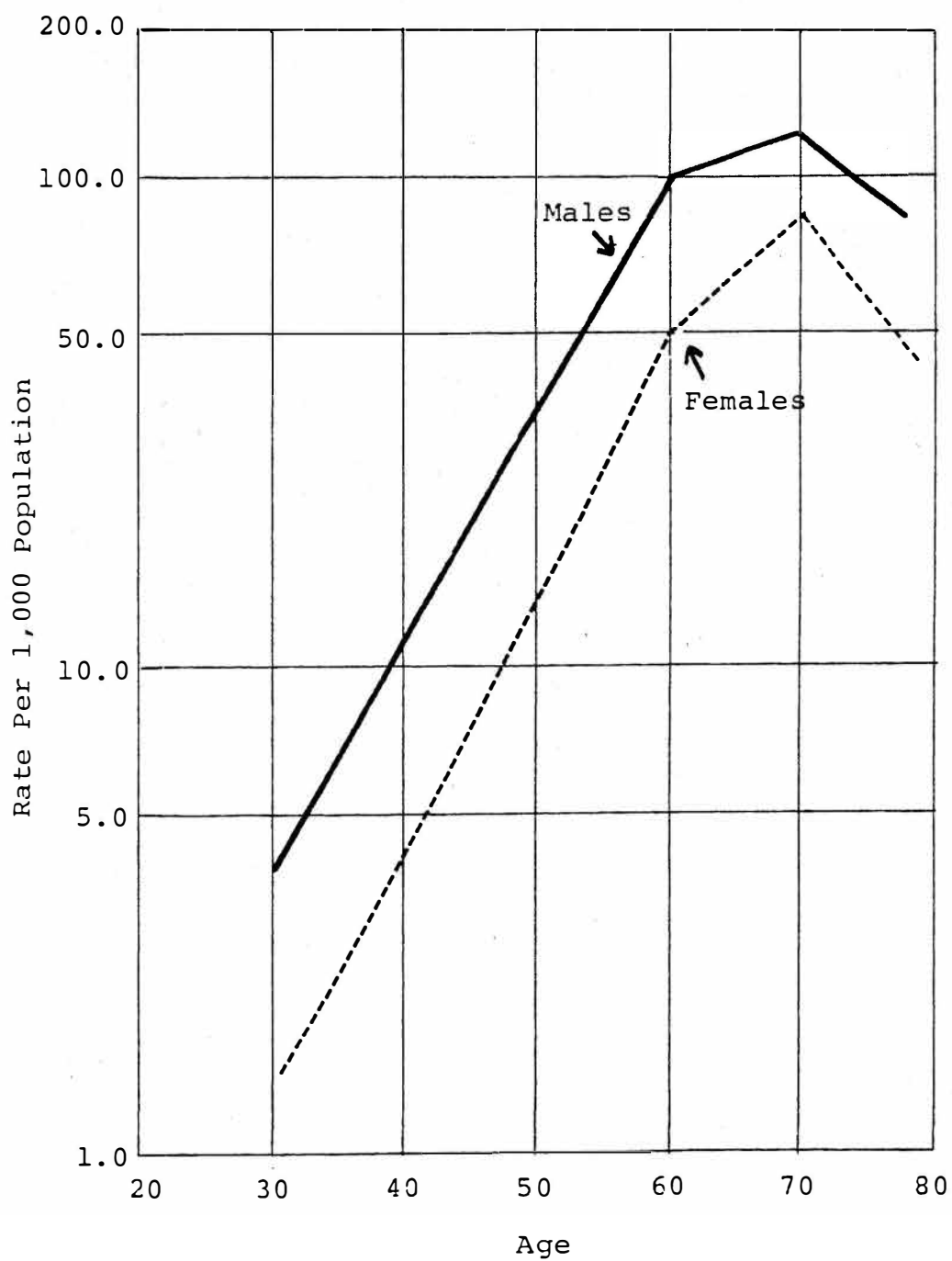


Figure 1. Prevalence of definite coronary heart disease among adults by sex, United States 1960-1962.

Because, statistically, men between the ages of 45 - 65 have more heart attacks than women, much of this study was directed to the male cardiac patient, although female cardiac patients were included. Buhler (1962) described the age group, 45(50) - 65(70) as a specific biologic and developmental phase, during which there is critical self-assessment. It is a time for building one's estate and position, as well as practicing self-denial for the sake of the family. Climacteric and health problems occur hindering need-satisfaction. Thus, the sexual capabilities and desires of the aging male and female must be understood in order to counsel the cardiac patient and spouse in sexual matters.

Myths that sex ends at 40 or 50 years of age must be corrected. Masters and Johnson (1966) found that ". . . there is no time limit drawn by the advancing years to female sexuality" (p. 247). And for the male, Masters and Johnson found that,

While it is true that the aging process, with associated physical involution, can reduce penile erectile adequacy, it is also true that secondary impotence is in no sense the inevitable result of the aging process. (p. 203)

Masters and Johnson (1970) stated that the aging male ". . . does not lose his facility for erection at any time" (p. 326). "The most important factor in the

maintenance of effective sexuality for the aging male is consistency of active sexual expression" (Masters and Johnson 1966, p. 262).

The problems of sexual expression in later years are intensified when a person is suffering from heart disease. The cardiac patient fears that sex will bring on angina or even death or that he will be a failure.

" many people suffering from cardiac difficulties are unnecessarily apprehensive about resuming sexual activity" (Scheingold and Wagner 1974, p. 87). These fears of the cardiac patient can be decreased by counseling the cardiac patient and his spouse on an individual basis, so they can learn to live with a realistic understanding of the patient's heart disease and any restrictions it may impose on their lives (Scheingold and Wagner 1974).

The review of literature reveals inadequate sex counseling of cardiac patients, lack of information on which to base sexual activity teaching, and a tendency to base teaching on what the health worker thinks the patient wants to know rather than what the patient indicates he wants to know. In a review of thirty-three cardiology books, Hellerstein and Friedman (1969) found a total of less than one thousand words referring to sexual activity

and heart disease. Cohen, Wallston, and Wallston (1976) agreed with Hellerstein and Friedman (1969):

Exploration of issues pertaining to sexuality and sexual activity, in the cardiac patient population has largely been neglected . . . this lack of information available to health professionals, combined with feelings of discomfort and insecurity in dealing with issues of sexuality, results in a minimal information exchange between the health professional and the cardiac patient. (p. 473)

Unsain (1977) found that the cardiac patient perceived that he was receiving inadequate sex counseling. The content being discussed, if any, with the cardiac patient was nonpersonal and nonthreatening in nature, e.g., topics about meals before coitus, prophylactic use of nitroglycerin, and when to resume sexual activity. The personal topics, such as maintenance of the usual sex partner, extramarital relations, positions, and masturbation were avoided.

Lack of knowledge may cause many unwarranted sexual problems. Some cardiac patients have totally abstained from sexual activity out of fear and ignorance of possible consequences.

A common fear of many male patients with coronary artery disease is that sexual activity will precipitate another heart attack. Wives of cardiac patients share this fear with the additional nightmarish fantasy that their partner will die during intercourse, and on top of them. (Scheingold and Wagner 1974, p. 88)

Semmier (1974) stated that:

By talking with the patient, the therapist can answer questions, provide encouragement and support to help alleviate some of the patient's anxiety and direct his behavior toward total rehabilitation rather than invalidism. (p. 609)

Hellerstein and Friedman (1969) studied ninety-one middle-aged, middle-class, long-married men to determine the cardiac cost of sexual intercourse. Forty-eight of the subjects had atherosclerotic heart disease; forty-one were coronary prone. The physiologic cost of sexual intercourse in these subjects was modest, with a maximal heart rate less than 120 beats per minute, and lasting for ten to fifteen seconds. The oxygen cost of sexual intercourse was shown to be similar to that of climbing a flight of stairs, walking briskly, or performing ordinary tasks in many occupations. Accurate knowledge of the energy expenditure of sexual intercourse can help alleviate many needless worries of cardiac patients and their spouses.

The rehabilitation of the cardiac patient should be aimed at returning him to his normal lifestyle. The period of rehabilitation is a trying time for the cardiac patient and his spouse.

For the post-coronary patient, convalescence is marred by feelings of depression, anxiety, and insecurity. The patient finds himself dependent, faced with major life adjustments and lacking sexual desire. He is confused and fearful about the effects of sexual exertion on his heart. His

partner, even more frightened about the possible consequences, may refuse sexual relations entirely. (Puksta 1977, p. 602)

Broderick and Bernard (1969) defined the sexual relationship as an interpersonal relationship, i.e., it follows that the spouse is an essential part of the rehabilitation program. "The spouse has a right to full information and a responsibility to be fully informed so that she can be maximally helpful to her husband" (Scheingold and Wagner 1974, p. 117).

The cardiac patient's sexual life is important to the well-being of his marriage. "In marriage, if both partners are not satisfied sexually, the capacity to get along in anyway is severely strained" (Broderick and Bernard 1969, p. 333). Dresen (1975) wrote that "good sex makes for a good marriage and a good marriage makes for good sex; by promoting one, you promote the other" (p. 1005).

Brambilla (1967) developed a teaching plan for cardiac surgical patients. Brambilla recognized a key concept which will form the basis of this thesis:

. if a nurse is to be an effective teacher, she must ask the patients what they want to know, rather than assume knowledge of the patient's point of view. If this is done, the tendency simply to assume knowledge of the patient's needs for information and to base vague attempts at

psychological preparation and supportive reassurance on this assumption, will be reduced. (p. 217)

Powell and Winslow (1974) cited Cantor in their philosophy of patient teaching. "The teaching process should be guided by what the learner considers significant for him in terms of its meaning for his life" (Cantor 1956, p. 185), "and by his readiness to learn" (Powell and Winslow 1974, p. 724). It was the problem of this study to determine what the cardiac patient and his spouse want to know concerning the resumption of sexual activity after hospital discharge.

DEFINITION OF TERMS

The following definitions were applied to this study:

1. Cardiac patient--a male or female patient in the hospital who has a diagnosis of myocardial infarction (M.I.) or coronary artery bypass graft surgery (CABG)
2. Cardiac nurse--a registered nurse who works in the hospital and cares for cardiac patients
3. Sexual activity--any expression of sexuality by either sex, which may or may not serve a reproductive function, and in which there is a giving of pleasure, a receiving of pleasure, and a personal communication.

4. Counseling--helping the patient and his spouse to identify their problems, perceive them realistically, and recognize possible alternative solutions on the basis of new information

5. Content--specific information given to the patient concerning the resumption of sexual activity after myocardial infarction (M.I.) or post-coronary artery bypass graft surgery (CABG)

6. Spouse--the intimate companion and sex partner of the cardiac patient, male or female, married by legal rituals or a private mutual commitment

7. Information wanted to be known--translated as the description of the value assigned to the questions in the tool available to the study sample

LIMITATIONS

The following limitations were applied to this study:

1. The subjects' willingness to respond to the Q-sort tool

2. The subjects' prehospitalization problems with sexual activity

3. The subjects' previous experience with sex education

4. The extent of influence of the Hawthorne effect on the subjects' responses

DELIMITATIONS

The delimitations of this study were:

1. The subjects were in-hospital patients and their spouses
2. The patients had a diagnosis of myocardial infarction (M.I.) or coronary artery bypass graft surgery (CABG)
3. The subjects were able to read, write, speak, and understand the English language
4. The patients were within a week of discharge from the hospital

ASSUMPTIONS

The following assumptions underlying the study were:

1. Human sexuality is a complex, vital force, that is a deep pervasive part of the total personality of man
2. Factors that are significant enough to affect the well-being of an individual also have the potential for altering his patterns of sexual activity and satisfaction

3. It is the right of patients to receive facts and alternatives for decision making

4. Patients have learning needs

5. Imparting knowledge to the cardiac patient concerning his sexual activity information needs is an important part of discharge teaching and an important function of nursing practice

6. Altered cardiovascular function may require modifications in a patient's sexual behavior

SUMMARY

The literature revealed that cardiac patients and their spouses are not being given adequate information about the resumption of sexual activity in their discharge instructions. There was a lack of literature about what the cardiac patient and his spouse want to know about sexual activity after discharge, and based on this information, what the nurse should teach them as part of discharge instructions. The data collected in this study can guide nurses in fulfilling the sex information needs of the cardiac patient during discharge teaching.

Chapter II is a review of literature of the last ten years, pertaining to the sexuality of man, the rehabilitation of the cardiac patient, the importance of

including the spouse in discharge teaching, and the need to teach the patient what he wants to learn.

Chapter III describes the procedure for the collection of data, the Q-sort of tool developed, and how the data were treated. Chapter IV addresses the analysis of data which includes the survey results, statistics, and interpretations of these results. Chapter V consists of the summary of this investigation, the findings, the implications and recommendations for further study based on the findings.

CHAPTER II

REVIEW OF LITERATURE

"Sexuality is a natural, vital, and pervasive biologic force which operates throughout the life of man" (Watts 1976, p. 349). Calderone (1971) reported that human sexuality is intricately experienced and expressed throughout the life style. Wagner (1974) stated that just as the sexual aspect of life is important to most people, it is also of great importance to persons with heart disease. The sexual sphere is so important to cardiac patients because they tend to allow their anxieties and fears of helplessness, pain, and death to affect their sexuality. The fear of being impotent in life is transferred to the inability to perform sexually.

Sexuality in Cardiac Rehabilitation

Green (1975) stated that "rehabilitation has the goal of restoring an individual to his optimal status in physiologic, psychologic, and vocational terms" (p. 246). Hellerstein and Friedman (1969) believed that "ranking high in importance throughout this process of restoration is the question of returning to normal sexuality--a normal part of a life-long phenomena" (p. 89). Health professionals

should recognize that sex is inextricably woven into all phases of living--the biologic, physiologic, sociologic, marital, and familial.

Moore, Folk-Lighty, and Nolan (1977) surveyed thirty cardiac patients and their spouses and found a major concern of theirs was "Is my sex life over?" Green (1975) suggested that sex is on the minds of cardiac patients from the onset of their illness and this warrants discussion of sex with the patient as soon as his condition is stable.

The sexual act has far more importance than a mere form of physical expression. "It has profound symbolic significance of the highest order and, for this reason, deprivation or loss of this function due to heart disease may be catastrophic" (Hellerstein and Friedman 1969, p. 89). Hellerstein and Friedman claimed that the way a patient fits back into his sex role and the way he is able to express his sexuality greatly affect his overall happiness and successful return to his family life.

The Involvement of the Spouse in Cardiac Rehabilitation

It is very important to actively include the spouse in the rehabilitation of the cardiac patient (Scheingold and Wagner 1974; Puksta 1977; Fischer 1977; Jacobson 1974; Watts 1973; Adsett and Bruhn 1968; Cohen, Wallston, and Wallston

1976). . Unfortunately, "the role the spouse plays in the rehabilitation of the cardiac patient is another important area that has too often been ignored by the cardiac team of physicians, nurses, and other professional personnel" (Scheingold and Wagner 1974, p. 115).

It is important to keep the spouse well-informed about the patient's cardiac problem to enhance her psychological well-being (Scheingold and Wagner 1974). Green (1975) stated that the wives of cardiac patients are in traumatic situations when they are given no or inadequate advice. Watts (1973) stated that the spouses of cardiac patients are under a lot of stress because they go through a role reversal in the marital unit and within the family structure.

Scheingold and Wagner (1974) discussed how the spouse takes on new roles as she helps her husband to recover. She feels new and increased tensions and stresses as she takes over the complete responsibility of finances, the home, and the children; plus, she has great fears of losing her husband. She has old and new needs, none of which are being met. The wives feel guilty and angry about their husbands' condition and have difficulty expressing this. Green (1975) stated that the wife's fear is

transformed into resentment, overprotectiveness, and avoidance of sex.

The importance of the female must not be ignored because she is very significant in the sexual problem . . . many females fear their partners health situation and avoid sex. (Green 1975, p. 251)

The wife should be encouraged to communicate, to express her feelings and her unmet needs (Watts 1973; Moore, Folk-Lighty, and Nolan 1977).

Scheingold and Wagner (1974) believed that if the spouse refrains from asking questions of doctors or nurses about post-hospital care and activities, then she will not know how to respond at home if her husband has a problem or symptom.

The involvement of the spouse in the discussion of the patient's illness, and of the meaning of symptoms and subsequent modifications in his way of life, helps to minimize the extremes of either lack of concern or over-concern and determine how realistic and hopeful the patient is about his future. (Adsett and Bruhn 1968, p. 557)

According to Scheingold and Wagner (1974), the first few weeks at home in the rehabilitation of the cardiac patient are very difficult and very crucial. The patient's family become very anxious about saying or doing something that may cause the patient to experience symptoms. A very tense unhealthy atmosphere develops as the family overprotects the cardiac patient.

The whole family is disrupted . . . the family relationships are important in determining how the spouse and children will react to the illness--just as the previous sexual relationship between husband and wife will largely dictate how they will return to this area of their life together. (Scheingold and Wagner 1974, p. 119)

The spouse may also react to her husband's illness by denial or fear. If she overreacts, she may overprotect her husband from his normal activities, even his sexual ones.

According to Koller et al. (1972), the spouse, anxious and fearful of her husband's condition and well-being, is confused about how to act sexually in bed. If she is warm and sexually responsive, she fears she may cause him to have angina or another attack. If she is cold and unresponsive, he will feel like an invalid, unmanly, rejected, worthless, and possibly impotent. Once the spouse's fears have been allayed and her expectations made clear and her role delineated, she may aid her husband's recovery and be a valuable asset during the rehabilitation (Koller et al. 1972).

If the wife is reassured that the physiologic costs of intercourse are modest, she can be confidently warm and responsive to her husband in bed, helping him to regain his masculine identity. (Wagner 1974, p. 126)

The Function of Sexual Activity in Marriage

Masters and Johnson (1974) believed that an effective sexual relationship contributes a great deal of strength to a marriage. The physical pleasure derived is not the sole contribution; it is the emotional commitment, warmth, and comfort communicated to each partner. "A loving sexual relationship brings peace and contentment which cannot be obtained at any price" (Griffith 1973, p. 73).

Udry (1968) also felt that sexual satisfaction and marital satisfaction are closely intertwined. A woman's sexual interest and responsiveness is related to her spouse's sexual satisfaction, which, in turn, directly affects marital satisfaction, which then promotes the wife's sexual interest and responsiveness (see figure 2). McCary (1973) found that "an unsatisfactory sexual relationship in marriage usually generates other problems, partially because much is expected of sex" (p. 31).

Melton (1969) agreed that sexual adjustment in marriage is closely related to over-all marital satisfaction and related to those certain personal characteristics and characteristics within the marriage that are significant to the sexual relationship. One significant personal

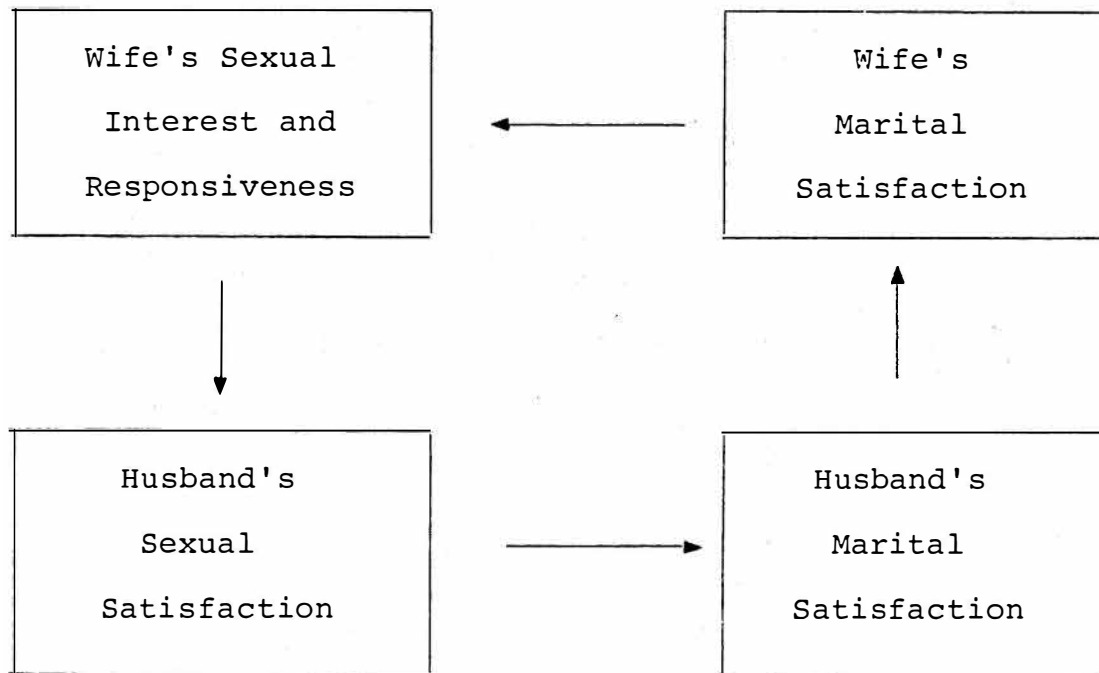


Figure 2. The relationship of sexual satisfaction and marital satisfaction.

characteristic is the amount of factual knowledge each partner has concerning sexual matters, basic genital structures and reproduction, and normal sexual responses. The more knowledge a person has concerning his or her sexual patterns and abilities, the greater the self-awareness of his or her own sexuality.

Another significant personal factor is the capacity of each person to give. One's attitudes towards sex is significant in determining sexual adjustment in marriage.

One of the significant marital characteristics which affects the sexual relationship is the existence of mutual acceptance and respect in the marriage. Mutual respect in a couple's relationship promotes a high quality of sexual response and sensitivity. "When there is a loving relationship of mutual respect and understanding, most problems can be resolved" (Melton 1969, p. 225).

McCary (1973) described a condition which is a prerequisite to respect, trust, mutuality, and delight in a meaningful relationship. This condition is intimacy. ". . . intimacy is the force that binds 'loving' someone and being 'in love' with someone" (p. 294).

Another significant characteristic of the marital relationship described by Melton (1969) involves the ability to accommodate differences in sexual needs. Males

and females have different sexual response patterns and sexual desires. Males respond to physical stimulation whereas females are excited more by emotional stimulation. Good communication of these differences and resultant accommodation can prevent ill feelings and confusion.

Once frank communication regarding their sex life is firmly established between husband and wife, helping one another toward greater sexual fulfillment becomes much easier. (McCary 1973, p. 148)

Melton (1969) stated that communication may be verbal or expressed through body gestures. Masters and Johnson (1974) believed that mutual cooperation is best attained through open communication. "Free flow of both verbal and non-verbal communication between cooperating sexual partners is the cornerstone of effective sexual function" (Masters and Johnson 1974, p. 13).

A Need Exists

For the healthy person, coitus is a natural and pleasurable function in life intended to bring tender reassurance, an intimacy which provides precious relief from tension, and an invitation to relaxation and inner peace. For patients with heart disease, the exact opposite is all too frequently true. (Griffith 1973, p. 70)

Worry and fear about death with or without sexual activity plague the minds of cardiac patients after the acute stage of the illness has passed. Griffith (1973) stated that worry and fear result from a lack of knowledge, and;

therefore, teaching these patients will help them to overcome their fears and anxieties.

Green (1975) and Puksta (1977) stated that cardiac patients want clear rules to follow but unfortunately receive little or no advice from health professionals. Tuttle, Cook, and Fitch (1964) interviewed post-coronary men about their resumption of sexual activity. Two-thirds of the men reported that they had received no advice in regards to resuming sexual activity. The other one-third had received advice so vague and nonspecific so as to be useless. Most of the men were under fifty and the majority had refrained from sexual intercourse for three months. Only one-third returned to their normal pattern of sexual activity, while the other two-thirds reported a marked decrease in the frequency of sexual intercourse. Ten percent of the men became permanently impotent. Tuttle, Cook, and Fitch (1964) concluded that these cardiac patients' alteration in sexual functioning was due to misinformation and fear.

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. (p. 140)

Glover (1975) agreed that "unfortunately, all too many cardiac patients receive little or no advice as to

when or how sexual intercourse can be resumed after a heart attack" (p. 166). Johnson (1976) stated that:

It is distressingly true that often the post-MI patient is not given specific medical advice or a prescription on physical activity (other than to "take it easy"), psychological and work rehabilitation, much less medical information and advice on sexual matters, which assume so important a role in the psychological and emotional rehabilitation of the cardiac patient. (p. 135)

Cohen, Wallston, and Wallston (1976) attributed the minimal information exchange between the health professional and the cardiac patient concerning the resumption of sexual activity to a marked lack of literature on sexual activity and the cardiac patient, and the discomfort and insecurity the health professional has in discussing sexuality. Despite the large amounts of literature on post-coronary rehabilitation, there is a scarcity of material that exists with regards to sexual rehabilitation post-myocardial infarction. (Green 1975; Hellerstein and Friedman 1969; Scheingold and Wagner 1974; Burnside 1975; Johnson 1976).

Hellerstein and Friedman (1969) believed that most physicians are not adequately informed about managing sexual problems.

. . . many physicians have numerous pockets of misinformation or no information, and thus may hesitate to initiate discussion of the subject. . . . The result is that cardiac patients may receive little or inadequate assistance about sexual matters from their physicians. (Koller et al. 1972, p. 133)

Nurses have a scanty knowledge in human sexuality (Jacobson 1974; Dresen 1975; Mims and Swenson 1978). "It is sad to say, however, that except for knowledge of the reproductive process, nurses as a group are quite ignorant and actually prudish in matters of sexuality" (Jacobson 1974, p. 52). When doctors or nurses are insecure about their sexuality, they may avoid counseling opportunities or have decreased objectivity and sensitivity to the patient's needs.

Health care professionals are often very skilled at avoiding issues related to a patient's ongoing sexual needs, using the guise of treatment priorities, institutional rules, schedules, fear of exploitation of the "victim" and concern about propriety and public opinion. (Dresen 1975, p. 1005)

Mims and Swenson (1978) stated that "nurses have a responsibility to promote sexual health in their practice" (p. 121). Lack of information or negative attitudes of nurses concerning sexual activity result in the patient being the victim, as he is not given any information concerning sexual activity in the recovery from the disease or is given misinformation (Mims and Swenson 1978).

Puksta (1977) stated that "if patients are not guided in their attempts to reestablish sexual relations, frustration , discord, and delayed recovery may result" (p. 602). The increased emotional stress may precipitate

cardiac symptoms (Puksta 1977). Semmier and Semmier (1974) agreed that:

. . . patients who are recovering from myocardial disorders frequently receive no professional advice regarding sexual relations, and consequently the patient and his spouse must decide whether or not to have intercourse. (p. 613)

This difficult decision may lead to marital tension and unhappiness.

The problem worsens because the patient is usually too inhibited, fearful or embarrassed to ask questions (Green 1975; Johnson 1976; Burnside 1975). Fear of sexual restrictions inhibits people from asking advice from physicians. Conservation or ambiguity in advice leads to decreased sexual activity which is unwarranted and detrimental to the patient's recovery.

Fear, ignorance, and misinformation created anxieties and needless frustrations. What was once a normal adaptive function for the expression of love, source of comfort and pleasure, and the release of tension, becomes a paradox of the desired but forbidden fruit. (Moore, Folk-Lightly, and Nolen 1977, p. 53)

Many cardiac patients voluntarily reduce their sexual activity because they fear excessive excitement will damage their hearts or lead to another heart attack or even to death (Van Bree 1975; Koller et al. 1972). Burnside (1975) agreed:

Usually he reduces his sexual activity unnecessarily and may even reach the point of abstinence which

could lead to frustration and marital conflict as well as impede recovery. (p. 29)

Kavanagh and Shephard (1977) studied 161 recovering cardiac patients to determine their sexual status in relation to their clinical and psychological status. They found that about 50 percent of the patients reduced the amount of sexual activity they had since prior to their infarction although many of them felt sexual activity was as enjoyable as before their heart attack. Reasons given for decreasing sexual activity were: angina, apprehension of the patient, apprehension of the spouse, loss of desire, and a combination of these factors. There was an association between decreased sexual activity and a decreased self-esteem. Kavanagh and Shephard (1977) concluded that resuming sexual activity is an important factor in improving self-esteem after having had a heart attack.

Hellerstein and Friedman (1969) found a decrease in the frequency of orgasm from 2.1 times per week one year before the attack to 1.6 times per week one year after the M.I. They found the reasons listed in the above paragraph to be the same reasons given to them by their patients for decreasing sexual activity. Of great interest to note is that no subject reported post-coronary impotence as a reason for decreased frequency of orgasm.

Hellerstein and Friedman (1969) compared the quality of the sexual activity before and after the patient's coronary. Twenty-three subjects (52.3 percent) stated there was no change in the quality, 22.7 percent stated that there was an improvement, and 25 percent reported a deterioration in the quality of sexual activity.

Bloch, Maeder, and Haissly (1975) studied one hundred patients on an outpatient basis for eleven months after their M.I.s. They found that myocardial infarction caused a marked decrease in sexual activity (see table 1). Sexual intercourse dropped from an average of 5.2 times per month to 2.7 times per month at eleven months after the M.I. The most significant fact was that almost all of these patients returned to a normally active life (89 percent of the nonretired patients returned to work).

The reasons given by patients for their reduction in sexual activity coincided with those of Hellerstein and Friedman (1969). The main reasons appeared to be psychological in nature. These reasons, in order of decreasing frequency included: decrease in sexual desire, depression, anxiety, wife's decision, fear of relapse, or of sudden death, fatigue, angina, and impotence.

Bloch, Maeder, and Haissly (1975) stated that explanations to the patient and his wife could have helped

TABLE 1
MODIFICATION OF SEXUAL ACTIVITY
AFTER MYOCARDIAL INFARCTION

Frequency of Intercourse	Number of Patients	
Unchanged:	36	
Patients without sexual activity		15
Patients with sexual activity		21
Moderately Diminished:	33	
Strongly Diminished:	29	
No sexual activity post-infarction		19
Some sexual activity post-infarction		10
Slightly Increased	2	
Total	100	

the patient to resume an active sexual life by relieving him of needless worries. Communication, frequent explanations, and reassurance to the patient and his wife

" appears to be very important at the time where rehabilitative measures are attempting to provide the coronary patient with a completely normal life" (Bloch, Maeder, and Haissly 1975, p. 537).

Physiological Data about Sexual
Activity in Cardiac Patients

Johnson (1976) and Masters and Johnson (1966) stated that coitus is work for the heart and it must be

regarded as potentially harmful to the cardiovascular system. Masters and Johnson (1966) studied the human sexual response cycle and described the sexual behavior pattern for men and women which results from physical or psychological stimulation.

The first phase of Masters and Johnson's (1966) sexual response cycle is labeled "the excitement stage" and begins with the initiation of sexual stimulation. In both men and women, it marks the initial rise in sexual tension, manifested by a generalized body reaction of vasoconstriction and myotonia. The second stage is labeled the plateau phase, referring to a state of heightened sexual tensions which can either go on to the orgasmic level or drop to the resolution phase. In the late plateau phase, both sexes, regardless of the type of sexual stimulation, experience marked hyperventilation. The rate of respiration goes up as high as forty per minute.

Both sexes also experience an increase in heart rate. Masters and Johnson (1966) reported a heart rate increase to between 100 and 175 beats per minute in the advanced stage of sexual tension. Blood pressures reflect parallel increases in both sexes. In men, the systolic increases by 50 to 100 mm Hg. and the diastolic increases by 20 to 50 mm Hg. In women, the systolic may increase

by 30 to 80 mm Hg. and the diastolic may increase by 20 to 40 mm Hg.

The third stage or orgasmic phase is the stage of climax of maximal sexual tensions, primarily pelvic in focus, although it involves total body responses as vasocongestion and myotonia are released. The final stage, the resolution phase, consists of the reversal process, in which sexual tensions are returned to their unstimulated state. Heart rate, respiratory rate, and blood pressure all decrease to the prestimulation state as the body returns to its basal state.

Eliot and Miles (1975) believed that sexual arousal and gratification do place a stress upon the body, especially the cardiovascular system. Cardiac symptoms, such as tachycardia, palpitations, or chest pain most commonly occur during or immediately after coitus. High blood pressure may occur due to increased beta-sympathetic activity. A mild beta-blocking drug may modify this response. Increases in respiratory rate up to sixty respirations per minute may lead to alkalosis secondary to hypertension. Respiratory alkalosis is associated with the Bohr effect which may aggravate myocardial ischemia by decreasing the amount and rate of oxygen release from hemoglobin by increasing the hemoglobin-oxygen affinity.

Hellerstein and Friedman (1969) found that sexual intercourse between middle-aged long-married couples did not appear to be dangerous for post-coronary patients. Hellerstein and Friedman (1969) studied ninety-one men, randomly selected from a larger population of men who participated in a physical fitness program at Case Western Reserve University. The subjects were Caucasian, middle-aged, upper-middle class, and mostly engaged in executive-type jobs. Forty-eight of these men had a history of coronary artery disease and were at least three months post-M.I. The other forty-three were highly coronary prone and referred to as the normal group.

Each subject was evaluated physically and psychologically, and put on an individual program to attain maximal physical fitness. Each subject wore a Holter monitor for twenty-four to forty-eight hours, and were continuously monitored. They were told to perform their usual activities. Fourteen of the subjects engaged in conjugal sexual activity and their recordings were analyzed for rhythm, rate, and S-T segment changes.

The mean maximal heart rate during orgasm was 117.4 and lasted for ten to fifteen seconds at the most. The mean heart rates for the minute two and one minute before the mean maximal heart rate were 87.0 and 101.2

respectively. The mean heart rates one and two minutes after the mean maximal heart rate were 96.9 and 85.0 respectively. The equivalent oxygen cost of the average maximal heart rate during sexual activity was less than that needed to perform a standard single Master two-step test.

The blood pressure during maximal heart rate was 162/89. The mean maximal heart rate of 117 is less than that attained during the performance of usual daily occupational activities, in which the heart rate is 120 beats per minute. Hellerstein and Friedman (1969) found that " the cardiovascular responses (ST-T depression and/or ectopic beats) during coitus and usual occupational activities were comparable in frequency and severity" (p. 85).

Hellerstein and Friedman (1969) found that most middle-aged, long-married couples (with or without atherosclerotic heart disease) engage in sexual relations about two times per week. The act of sexual intercourse lasts about ten to sixteen minutes, no more than 0.3 percent of living time.

The physiologic cost is certainly modest, with the maximal heart rate response averaging less than 120 beats per minute, and lasting for ten to fifteen seconds at most. The equivalent oxygen cost is similar to that of climbing a flight of stairs,

walking briskly, or performing many occupations.
(Hellerstein and Friedman 1969, p. 88)

Hellerstein and Friedman (1969) concluded that 80 percent of post-cardiac patients can enjoy sexual intercourse without symptoms or evidence of significant stress.

In view of the brevity of the duration, the low frequency, the modest heart rate and equivalent oxygen cost, and the symbolic importance of conjugal sexual intercourse, most middle-aged men with ASHD, not in congestive heart failure, can resume this important activity. (Hellerstein and Friedman 1969, p. 96)

"Thus, the time and energy cost of sex is relatively benign" (Green 1975, p. 249). Stein (1976) studied post-M.I. patients during coitus via Holter monitor and confirmed the results of Hellerstein and Friedman (1969).

Hellerstein and Friedman (1969) noted the effect of physical conditioning upon the quality and frequency of sexual activity of the cardiac subjects. Of the forty-three subjects with atherosclerotic heart disease (ASHD), eighteen or 41.9 percent developed one or more cardiac symptoms during sexual activity. The most common symptom was an awareness of a rapid heart rate, which was accompanied by chest pain in four subjects. Nine subjects complained of chest pain or arm pain, most often in the resolution phase.

"After physical conditioning, fewer subjects developed symptoms during sexual activity" (Hellerstein

and Friedman 1969, p. 81). Hellerstein and Friedman (1969) noted that there was an improvement in the quality and frequency of orgasm in the ASHD subjects who participated in a physical fitness program. The frequency of orgasm improved in 30.2 percent of the subjects; the quality of orgasm improved in 39.5 percent of the group. There was also an improvement in morale, resting and exercising blood pressure, and serum cholesterol.

Physical reconditioning through active participation in a physical training program resulted in dramatic improvements in cardiovascular functional capacity in patients with coronary artery disease, as well as having favorable influence on hypertension, hypertriglyceridemia, and diabetes mellitus (Douglas and Wilkes 1975; Eliot and Miles 1975; Glover 1975; Stein 1976). Wagner (1974) stated that as with other physical exercise, the better the state of physical fitness of the patient, the easier and more enjoyable sexual activity will be. "Thus, the more physically fit a person feels, the more apt he is to engage in sexual activities with vigor and vitality" (Wagner 1974, p. 125).

Puksta (1977) reported a study at Downstate Medical Center which measured the effect of a physical rehabilitation program for post-cardiac patients in relation to sex-related angina. The study sample was composed of sixteen

post-coronary males, ages 46 to 54. They were studied via Holter monitor at home during sexual activity, before and after starting an exercise program. The results indicated that exercise improved cardiovascular status significantly. An increase in cardiac capacity, in turn, can reduce the oxygen requirements of the heart during coitus, and, thus, decrease angina and improve sexual functioning.

Green (1975) stated that "in order to pursue sexual activity safely, the heart must be trained to tolerate a specific workload" (p. 249). Hojnacki (1975) endorsed the use of M.E.T.s to determine a patient's state of cardiac conditioning. An M.E.T. (metabolic equivalent) allows one to quantitize energy used in definite increments. One M.E.T., or one metabolic equivalent, represents the metabolic energy expenditure of a person at rest who requires an oxygen consumption of 3.5 ml. per kg. body weight per minute.

Douglas and Wilkes (1975) stated that activities which require a higher energy expenditure are described as multiples of one M.E.T. They describe the mean energy costs in M.E.T.s of various activities (see table 2). Foreplay costs an energy expenditure of approximately 3.5 M.E.T.s, which is the cost of walking one mile in eighteen to twenty minutes. The peak energy requirements of sexual

activity at orgasm is equal to that energy needed to climb two flights of stairs in one minute, or 4.7 to 5.5 M.E.T.s.

TABLE 2

MEAN ENERGY COST IN M.E.T.S
OF VARIOUS ACTIVITIES

Activities	M.E.T.s
Sleeping	0.8
Awake, lying at ease	0.9
Sitting at ease	1.0
Standing at ease, desk work, typing	1.2-2.0
Walking on level surface @ 3 mph	2.1
Uphill (5% grade) @ 3 mph	4.0
Upstairs, rapidly	6.0
Sexual intercourse	
Foreplay	3.5
Orgasm	4.7-5.5
Bicycling @ 5.5 mph	3.2
@ 9.5 mph	5.0
@ 13.1 mph	7.9
Volleyball (6 man noncompetitive team)	3-4
Golf (pulling golf cart)	3-4
(carrying clubs)	4-5
Tennis doubles	4-5
Raking leaves	4-5
Tennis singles	6-7
Water skiing	6-7
Basketball (light)	7-8
(vigorous)	8-9
Handball (competitive)	10+
Bedside commode	3.2-3.5
Bedpan	4.7

Eliot and Miles (1975) stated that determining a patient's cardiovascular functional capacity by a treadmill or bicycle test allows a physician to objectively

measure the patient's ability to perform activities of known energy costs. An individual's heart rate corresponds directly to his oxygen consumption and depicts his cardiovascular response to an activity.

The caloric demand or oxygen consumption of physical work has been proven to depend upon the work performed and not on the performer. Therefore, the physical demands of any physical activity, including sexual intercourse, can be estimated by oxygen or caloric consumption. (Eliot and Miles 1975, p. 50)

Thus, if a patient can demonstrate tolerance of an activity requiring 5 to 6 M.E.T.s by stress test, then he will be able to tolerate sexual intercourse.

Coitus during orgasm uses six calories per minute and 4.5 calories per minute before and after orgasm (Kent 1975; Hellerstein and Friedman 1969; Semmier and Semmier 1974). Thus, cardiac patients who can tolerate this amount of stress easily can engage in sexual activity as vigorously as they wish.

Special Sexual Problems of the Rehabilitating Cardiac Patient

"Any chronic disease is likely to affect the libido, and the middle adult is at risk to many chronic diseases" (Dresen 1975, p. 1004). Butler and Lewis (1977) agreed that illness has a negative effect upon people sexually. Dresen (1975) stated that despite many myths and

fallacies, middle adults have a real need for sexual expression.

Because the majority of cardiac patients are between the ages of 45 and 65, the universal sexual problems of middle age are relevant.

A good sexual relationship at this critical time of life can provide much needed warmth and comfort, and can be a highly effective source of self-reassurance. For both the older man and the post-menopausal woman, the feeling of being needed and loved at this time of life is of great importance to mental well-being. (McCary 1973, p. 258)

Aging men and women need to know that they indeed have the capacity to give and receive love. Whiskin (1970) stated that as people grow older, their need for affection increases along with the increasing need for sexual satisfaction.

Watts (1973) stated that middle age is a stressful time in which a person critically evaluates all aspects of his life--himself, his family, his friends, his marriage, and his job. This is an extremely vulnerable time of life for many people.

The major problem for middle-aged married persons seems to be a fear of declining powers, a resulting sense of depression, and then a diminution of activity which might have been the most pleasurable in their lives. (Weiner 1969, p. 332)

Men are almost all inflicted with the problem of having to prove their sexual prowess. They worry about how women

view them, about possible sex failure, and waning sex drive and powers. Men are taught from adolescence that they are expected to be aggressive and sexually strong or "macho." The more virile he tries to be and the higher he sets his standards, the more likely he is to worry about his sexual abilities and to become upset. Unlike women, men can not fake orgasm and failures are apparent.

Kaplan (1974) stated that impotence is a frequent complaint of aging men. Butler and Lewis (1977) stated that impotence is often the first sign of depression and that "the fear of impotence can cause impotence" (p. 53). A wife's disinterest in her husband as a sexual being is very likely to have an effect upon him. Butler and Lewis (1977) stated that an unresponsive sexual partner threatens a male and can lead to impotence. Masters and Johnson (1966) stated that "no matter how the feelings are communicated, a man no less than a woman wishes to believe that his marriage partner values him and desires him" (p. 11).

Masters and Johnson (1966) listed the following general causes of decreased sexual response in middle-aged men:

1. Monotony of a repetitious sexual relationship (or boredom with one's sexual partner)

2. Preoccupation with one's career or economic pursuits
3. Mental or physical fatigue
4. Overindulgence in food or drink
5. Physical and/or mental infirmities of either partner
6. Fear of performance, associated with or as a result of the above stated numbers 1-5

Scheingold and Wagner (1974) believed that marital relations are very fragile during middle age if the two partners have not already built a strong foundation based on direct and open communication. They must be able to talk about their feelings and anxieties, sexual and others. In fact, fear of inadequacy can cause either partner to seek an extramarital affair, in the hope of being able to perform better because of the novelty of the new partner and the probability of not seeing him/her again.

Universal problems of women basically stem from worrying about pleasing their male partners, thus placing their own sexual pleasure second (Weiner 1969). In doing this, Weiner (1969) stated the female refrains from seeking sexual satisfaction and becomes resentful of her partner whom she thinks expects her to please him. She may feel

used as a sex object and what is worse, she does not communicate this.

Women in their menopausal years attribute sexual problems to the physical changes occurring, although the female's capacity for sexual activity will continue far past menopause and into old age (Weiner 1969; Neugarten 1968; Masters and Johnson 1966). "If sexual activity is continued within comfortable limits, more and better sex becomes possible with age" (Glover 1975, p. 165). Glover (1975) believed this to be related to a retention of higher levels of hormones and a slower decline in interest. Psychological responses to aging are far more important than the physical changes.

Kaplan (1974) stated that if a couple's health remains good, the couple should be able to enjoy sexual relations all through their lives.

Lovemaking techniques can accommodate each partner's changing needs for stimulation and gratification, and the marriage relationship can be enriched by a sensitive and mutually generous adaptation to each partner's age related changes in sexual functioning. (Kaplan 1974, p. 114)

Scheingold and Wagner (1974) stated that the problems of aging are compounded when an individual has heart disease.

Many patients lose their desire for sex after a heart attack, or fear that sexual activity may weaken their heart further and result in death.

Many fear they'll not be able to perform the sex act. (Moore, Folk-Lighty, and Nolan 1977, p. 55)

Johnson (1976) described the sexual problems of cardiac patients as stemming from loss of libido, feelings of premature aging, decreased potency, loss of manhood, and premature ejaculation.

Watts (1973) depicted the cardiac patient as suffering from depression, loneliness, fatigue, and a diminished self-esteem by the fourth or fifth day at which time his condition has stabilized. This depression is part of the grieving process due to the loss of independence and health. At this time, the patient does not have the energy nor the motivation to think about sexual activity. Physiologically, this is a result of increased plasma cortisol levels secondary to a chronic stress state. Then, through a negative feedback mechanism, the hypothalamic-pituitary structure decreases the release of gonadotropic hormones, which results in a decreased production of testosterone, which presents itself as a lack of sexual drive, or libido. Efforts should be made to increase the patient's feeling of self-esteem before attempting to return the patient to his former level of sexual activity (Watts 1973).

Kaplan (1974) stated that sexual responses are highly vulnerable to the effects of emotional stress. "Depression, stress, and fatigue can damage sexuality

profoundly and masked depression and tension states are frequently involved in the etiology of sexual dysfunctions" (Kaplan 1974, p. 75). Abramov (1976) found that women cardiac patients with recent heart attacks experienced a high incidence of sexual frigidity and dissatisfaction.

Kent (1975) reported that as a cardiac patient recovers from his illness, he is anxious about resuming even normal activities, especially sexual activity. Scheingold and Wagner (1974) stated that it is natural for the cardiac patient and his spouse to worry about resuming sexual activity, not only concerning erection and orgasm, but also in relation to the recurrence of cardiac problems. Male and female spouses of cardiac patients fear that if they initiate sexual activity, their spouse may have another heart attack and die on top of them (Eliot and Miles 1975; Kent 1975; Puksta 1977; Green 1975).

Eliot and Miles (1975) stated that these fears can prevent the patient and his spouse from enjoying a satisfying sexual relationship.

If no health professional discusses sexual activity with the patient, he may falsely assume that this is beyond his potential recovery . . . fear, ignorance and misinformation have prevented many patients from enjoying normal sexual intercourse. (Eliot and Miles 1975, p. 49)

Masters and Johnson (1974) described this process when they paraphrased an old truth: "The road to hell is often paved with false assumptions" (p. xi).

Scheingold and Wagner (1974) stated although fear of "death in the saddle" is great, the actual occurrence of death during sexual intercourse is not common. Ueno's (1963) study of 5,559 cases of sudden death over a period of four years revealed that only thirty-four of these deaths occurred during coitus, eighteen of which were attributed to heart disease. Autopsies showed that these deaths from coitus were associated with lethal arrhythmias and coronary insufficiency.

Massie (1969) found that deaths associated with sexual activity and reported to the Medical Examiner were usually incidents of illicit sex, i.e., extramarital affairs. Scheingold and Wagner (1974) stated that sex outside of marriage is a common occurrence. They believed the incidence of extramarital affairs is about 75-80 percent for men and about 50 percent for women. Thus, it is relevant to consider the effect of extramarital affairs upon cardiac patients. Scheingold and Wagner (1974) stated:

the circumstances surrounding an extramarital affair are frequently those which are guaranteed to increase the physical and psychological strain upon the individual. These circumstances include the excitement of an illicit encounter, unfamiliar

surroundings, and the heavy eating and drinking often associated with the act of intercourse in these circumstances. (p. 140)

Wagner (1974) stated the significance of the issue of increased risks in extramarital affairs is the familiarity of the partner, not the legality of the liason. Thus, a man who had abstained from sexual intercourse from his wife for the last fifteen years would also have increased risks due to anxiety and the nervousness that are associated with new extramarital affairs.

Masters and Johnson (1974) stated that fear is often the cause of sexual problems in married couples. Fear ". . . is usually the basis for their lack of commitment to their own sexuality, to their right as human beings to sexual pleasure" (p. 279). Fear may have many sources: fear of being ridiculed, fear of being hurt physically or emotionally, and fear of being incompetent or undesirable. "Nothing is more destructive to normal sexual functioning than feeling inadequate" (Malo-Juvera 1975, p. 33).

Fear of experiencing cardiac symptoms may cause some cardiac patients to have difficulty getting an erection.

The male penis is a barometer of a man's feelings and quickly reflects his state of mind and his current life situation. . . . A disturbance in sexual functioning is often one of the first indications of an unusual stress or emotional problem. (Butler and Lewis 1977, p. 53)

Although impotence is almost always caused by psychological factors, certain medications used to treat hypertension may cause the patient to be impotent, decrease libido, or ejaculatory dysfunction (Puksta 1977). If the patient is impotent for fear of failure, Scheingold and Wagner (1974) suggested employing the relaxing techniques of Masters and Johnson (1970). Scheingold and Wagner (1974) believed:

. . . the role of the spouse can be a very important and positive one, if she stresses supportive understanding and reexperiencing one another after the cardiac difficulty, rather than dwelling on male performance. (p. 130)

Prerequisites to Patient Teaching

Leighton (1976) stated that patient teaching is not effective if the nurse and patient do not agree on which concepts are important to know. A real teaching problem exists when there is a marked difference in learning priorities. "When both nurses and patients identify what each regards as important, communication flows freely--as do warmth and friendliness" (Leighton 1976, p. 77).

Leighton (1976) developed a ten-step teaching guide for nurses to help improve patient-teaching. The first step in patient education is to actively determine what is important to each patient to know (Kratzer 1977; Brambilla 1969). Kratzer (1977) stated: " . . not every patient

knows what questions to ask. So, to teach your patient what he needs to know, you'll first have to assess his educational needs" (p. 82).

Leighton (1976) stated that a professional can help her patients sort out their learning needs. Only if nurses teach patients what they think they ought to know along with what nurses feel they need to know will patient-teaching efforts be effective.

For no matter how important the subject is from a nurse's viewpoint, if patients do not think the information is meaningful, they more than likely will disregard it, forget it, or distort it. As a corollary, if patients consider certain information important but do not get it, they become anxious, no matter how minor the information may seem to you. (Leighton 1976, p. 78)

If a nurse is caring for the patient as a total person, then she must include his sexuality in her care plan (Jacobson 1974; Krizinofski 1973, Van Bree 1975, Dresen 1975). "If nursing is giving care to the total person, the sexual dimension of a person's life deserves adequate attention and consideration" (Dresen 1975, p. 100).

Nurses should anticipate the coronary patient's fears about his future sex life and provide him with reassurance that when he is able to resume other activities of daily life, his sexual activity will also be resumed. Krizinofski (1973) and Van Bree (1975) stated

that nurses are in a unique position for intervening in a patient's sexual concerns in health and illness. Although the physician often takes the responsibility, it is the nurse who must be sure the teaching on a patient's sexual activity has actually been done, and she should be able to clarify any questions the patients may have.

Whether the nurse is the one to do the sexual counseling for the heart attack victim or not, she should know the sorts of things that clients need to know and the rationale behind them.
(Van Bree 1975, p. 407)

Jacobson (1975) believed that for a nurse to be effective as a teacher in sexual matters, she must demonstrate the following characteristics:

1. She must have adequate knowledge of the specific disease process as it affects a patient's sexual activity
2. She must be familiar with all forms of sexual expression
3. She must have a non-judgmental attitude, and warmth for others
4. She must have a sense of self as a sexual being

Krizinofski (1973) stressed the fact that nurses must be aware of their own attitudes, values, and beliefs toward sexuality before they can be comfortable discussing

sexual matters with others. Jacobson (1975) drew up a "Bill of Rights to Sexual Freedom" which she hoped will help nurses to gain a therapeutic nonjudgmental attitude towards the sexuality of others, and a sense of self-identity as a sexually expressive human being.

Before advising the cardiac patient on resuming sexual activity, one must consider his general health, the amount and severity of his heart damage, the incidence of pain and related symptoms (arrythmias), and his age, and gender (Semmier and Semmier 1974; Stein 1976; Koller et al. 1972; Griffith 1973).

The couple's preheart attack level of sexual activity is very important to determine before teaching them about resuming sexual activity (Koller et al. 1972; Scheingold and Wagner 1974; Soloff 1977; Stein 1976).

What is comfortable for a given individual should be considered normal and indeed optimal. Thus, the therapeutic goal would be a return to pre-morbid levels of sexual activity. (Koller et al. 1972, p. 136)

Scheingold and Wagner (1974) warned that "for a couple who had not been sexually active, the resumption of sexual activity following a cardiac problem may indeed be fool-hardy and unwise" (p. 107).

Teaching the Cardiac Patient and His
Spouse about Resuming
Sexual Activity

According to Eliot and Miles (1975), there is much a health professional can tell cardiac patients to help them resume their normal level of sexual activity. "It is imperative. . . to discuss sexual relations with them and their spouses prior to discharge from the hospital" (Van Bree 1975, p. 407). Griffith (1973) believed that as confidence is gained by the couple, they will gradually return to their preillness pattern of sexual activity.

The goals of sexual counseling for cardiac patients according to Watts (1973) are:

1. To restore the couple to their preillness pattern of sexual activity
2. To educate them about human sexuality and adaptations imposed by the heart illness
3. To facilitate communication so as to attain optimal sexual functioning

Green (1975) stated that "advice pertinent to the patient is the key" (p. 250). The following guidelines are suggested in the literature for cardiac patients and their spouses to help them enjoy a satisfying sexual relationship while minimizing the work load on the patient's heart.

1. When Sexual Activity May be Resumed.

The cardiac patient should be encouraged to resume sexual activity when he is able to tolerate activity requiring six to eight calories per minute without chest pain, shortness of breath, abnormal heart rate or blood pressure, or EKG changes (Kent 1975; Hellerstein and Friedman 1969; Semmier and Semmier 1974).

Green (1975) believed:

. once fitness is determined (by indirectly evaluating maximum oxygen capacity, as reflected by heart rate response to exercise), a program can be formulated to improve the patient's fitness so that normal activities, including sexual intercourse, can be performed safely. (p. 244)

According to Douglas and Wilkes (1975), the myocardium begins to heal within twelve to twenty-four hours of the ischemic insult and continues to heal for six to eight weeks thereafter. Hellerstein and Friedman (1969) stated it is reasonable to forbid sexual intercourse for four to six weeks after the M.I., as other physical activities would be. As a patient progresses free of complications, he should be encouraged to engage in physical activity including sexual intercourse by the ninth and twelfth weeks (Glover 1975).

Puksta (1977) suggested that patients can usually resume sexual intercourse in four to eight weeks after having had the heart attack. Moore, Folk-Lighty, and

Nolan (1975) stated that the physician should decide when a patient may resume sexual activity, usually at eight weeks.

Green (1975) stated that eight weeks is a debatable figure. Ideally, sexual intercourse should be avoided until the patient's exercise capacity has been assessed. "Thus, each patient must be evaluated in terms of his own activity response" (Green 1975, p. 250).

Douglas and Wilkes (1975) suggested that most cardiac patients refrain from sexual intercourse for at least two weeks and possibly four weeks after discharge. However, they may safely engage in courtship behavioral activities, i.e., touching, caressing, and showering together, with the advice to "not go all the way yet" (Wagner 1974).

There are really few things a coronary patient can't do safely if he will take adequate time. Many . . . patients who start out on such progressive sexual activity sheepishly acknowledge at their week follow-up out-patient visit that they "couldn't help going all the way" and didn't have any trouble at all. (Douglas and Wilkes 1975, p. 127)

Watts (1973) stated that a patient should progress gradually to coital activity as his level of other physical activity increases. Couples should initially be encouraged to touch and caress each other without stimulating their erotic areas. Then, later, they may proceed

to stimulate the breasts and genitals, or engage in oral-genital sexuality if they wish. The married cardiac patient should feel safe to resume his preillness form and patterns of sexual activity when he can tolerate exercise requiring six M.E.T.s.

Glover (1975) stated that advice is simple--abstain from sexual intercourse when the patient has congestive heart failure, although stroking, touching, and embracing are permissible. Kent (1975) stated that patients who do experience symptoms with sexual intercourse are advised to continue sexual activity on a restricted basis. In short, "under most circumstances, there is little reason to abstain from sex after a heart attack and many reasons to continue" (Butler and Lewis 1977, p. 30).

2. Warning Signs.

The patient should know to report the following signs to this physician: (1) chest pain during or after sexual activity, (2) palpitations for fifteen minutes or greater after coitus, (3) sleeplessness after sexual activity, (4) marked fatigue during the day following sexual activity, and (5) shortness of breath or rapid heart rate that lasts for more than fifteen minutes after

sexual intercourse (Griffith 1973; Moore, Folk-Lighty, and Nolan 1977; Puksta 1977; Semmier and Semmier 1974).

The patient should also be advised to report any other symptoms he feels with intercourse that signal his heart is in trouble. However, Semmier and Semmier (1974) stated the patient should be told which physical responses are normal. McCary (1973) stated that the heart patient and his spouse should be told that heart rate and blood pressure will increase with sexual activity, even if the cardiac patient assumes a physically inactive role during coitus.

3. Specific Instructions.

Griffith (1973) stated that advice should not be vague, i.e., "Take it easy." Specific instructions should include the following:

(a) Resume sexual activity in a comfortable room temperature. Temperature extremes, as well as extremely hot or cold showers or baths, increase the stress on the heart (Moore, Folk-Lighty, and Nolan 1977; Green 1975; Puksta 1977; Semmier and Semmier 1974).

(b) It is advisable to wait three hours after eating a heavy meal or drinking alcohol before engaging in sexual activity (Griffith 1973; Puksta 1977; Semmier and Semmier 1974; Moore, Folk-Lighty, and Nolan 1977).

Alcohol dilates the blood vessels and increases the heart rate.

(c) It is beneficial to your heart to be rested prior to engaging in sexual intercourse (Moore, Folk-Lighty, and Nolan 1977; Griffith 1973; Puksta 1977; Semmier and Semmier 1974). Avoid fatigue. A damaged heart is excessively irritable and the work of sex can be too much. "Morning is an ideal time, but intercourse need not be restricted to this period" (Moore, Folk-Lighty, and Nolan 1977, p. 54).

Puksta (1977) suggested avoiding sexual activity if strenuous activity is planned for afterwards. Plan extra time to wait if activities, like climbing stairs, precede sexual intercourse to allow time for energy adjustment. A short rest after sexual activity is encouraged.

(d) The cardiac patient should be advised to avoid tension and emotional stress, as this increases the workload of the heart. The atmosphere should be one of gentle relaxation (Scalzi and Dracup 1978; Moore, Folk-Lighty, and Nolan 1977; Griffith 1973; Puksta 1977). Tension increases circulatory demands. Medications, music, or a warm shower may help relax the individual prior to sexual activity.

The cardiac patient should avoid having sex relations under furtive, anxious conditions,

with time restrictions, and with a partner toward whom he bears resentment. (Griffith 1977, p. 74)

(e) The cardiac patient should avoid too great an amount of excitement. McCary (1973) stated the patient should be warned "against prolonged coition, fatiguing sexual positions, and extended sex play" (p. 268). The patient who avoids these circumstances may better enjoy the fulfillment of coitus while minimizing any threat to his health. McCary related a humorous anecdote which sums up the advice often given to a rehabilitating cardiac patient who questions his physician in the matter: "By all means, have sexual intercourse," replied the doctor, "but only with your wife. I don't want you to become too excited" (p. 268).

The cardiac patient should be warned of the increased stress of sexual activity in extramarital affairs. Unfamiliar surroundings also increase the stress upon the heart (Moore, Folk-Lighty, and Nolan 1977). Wagner (1974) stated that familiar partners and surroundings are advised to prevent difficulty in early rehabilitation.

(f) If the patient desires to wear clothing with sexual activity, wear clothing that is comfortable and loose fitting (Moore, Folk-Lighty, and Nolan 1977).

(g) The positions chosen for sexual intercourse should be comfortable, relaxing, and allow for

unrestricted breathing (Van Bree 1975; Moore, Folk-Lighty, and Nolan 1977). Some recommended positions are: (1) side lying rear-entry, (2) side lying front-entry, (3) back lying with cardiac patient on the bottom, and (4) cardiac patient sitting in a broad armless chair with his feet flat on the floor (Moore, Folk-Lighty, and Nolan 1977; Griffith 1973; Semmier and Semmier 1974).

Watts (1973) stated that the male cardiac patient should be discouraged from supporting his body weight on his arms during vigorous penile thrusting. It is important to explain to the patient why he should avoid isometric muscular activity during sexual intercourse, as it may increase the peripheral vascular resistance, increase blood pressure, and produce cardiac symptoms (Eliot and Miles 1973; Koller et al. 1972).

Selection of coital positions should be couple-oriented, with the partners assuming the most comfortable positions for them, and the patient avoiding isometric muscular activity. (Watts 1973, p. 352)

Watts (1973) discussed the four basic recommended positions:

1. In the side by side style, there is equal sharing, mutual exchange of caressing and maximal depth of penile penetration

2. The sitting position has the same advantages as listed above

3. The supine position, in which the male cardiac patient is on the bottom, allows him less mobility and less independence. Some men may find the psychological significance of the supine dependent position stressful. It is very important to assess the couple's former style of sexual activities, and return to the customary style of sexual intercourse should be encouraged.

If the male patient is locked into the role of the dominant, decision making, controlling partner, suggestions for abrupt changes in sexual style or role reversal could further disrupt the relationship. (Watts 1973, p. 352)

4. The superior position offers the greatest control, freedom of movement, and responsibility

Nemec (1974) found that male cardiac patients are under no more significant stress when they are "on top" or "on the bottom" positions. Nemec (1974) measured the heart rate and blood pressure of ten males, ages 24 to 40, during five episodes of sexual intercourse at their homes via Holter monitor. Each subject engaged in sexual activity twice in the "on top" and twice in the "on the bottom" positions--one time was orientation and not used. Nemec (1974) found that:

. the small difference in heart rate, blood pressure, and pressure-related product (an

indication of myocardial oxygen uptake) were not statistically significant in the two positions.
(p. 605)

Further, it was concluded that the cardiac work during sexual intercourse is of modest intensity, and her study did not support the popular assumption post-cardiac patients should resume sexual activity in the "on the bottom" position. Rather, they should use whichever position is most relaxing and comfortable for them.

(h) Foreplay is desirable as a means to warm up for sexual intercourse and decrease the workload on the heart during sexual intercourse (Van Bree 1975). Moore, Folk-Lighty, and Nolan (1977) stated that foreplay helps the heart prepare for sexual intercourse and that it is desirable.

(i) Masturbation is a form of sexual expression preferred by some that usually requires less energy than sexual intercourse (Moore, Folk-Lighty, and Nolan 1977). Glover (1973) stated masturbation is especially a good outlet for an aging person without a sexual partner.

Watts (1973) stated that "masturbation is a normal natural form of sexual expression which is practiced by the male population from infancy to senescence" (p. 352). A study at the University of Washington of young, healthy males who masturbated to orgasm demonstrated that these

subjects experienced a brief increase in heart rate to a maximum of 130 beats/minute. This rate is far less than the tachycardia rate of 180 recorded in young males during sexual intercourse in a lab. Watts (1973) suggested that a patient should be "permitted" to masturbate if he can tolerate a heart rate of 130 without undue side effects.

Scheingold and Wagner (1974) stated that masturbation, if acceptable with the patient, is an approved way of gradually resuming sexual activity. Masturbation has three advantages: (1) it requires less cardiac work than coitus, (2) the individual can control the amount of sexual stimulation he receives, and (3) it allows the patient to know that he can get an erection and ejaculate, and thus, decrease fears of impotence (Watts 1973).

"The development of an erection provides visible proof that his masculinity remains intact prior to the resumption of more stressful conjugal coital activity" (Watts 1973, p. 353). If a patient can walk a hall twice, then masturbation should be considered to be an acceptable activity for him. Most cardiac patients do masturbate while in the hospital prior to discharge (Watts 1973; Wagner 1974).

(j) Moore, Folk-Lighty, and Nolan (1977) stated that if the patient and his partner desire and enjoy

oral-genital sex as a means of sexual expression, this will place no undue strain on the heart.

(k) Moore, Folk-Lighty, and Nolan (1977) believed that anal intercourse does add to the stress upon the heart and the patient should check with his physician before engaging in this type of activity.

(l) Mims and Swenson (1978) recognized that nurses should instruct clients about the effects of their medications, if any, upon their sexual activity. Some medications, such as Nitroglycerin or Isordil, may be used prior to intercourse to prevent chest pain (Moore, Folk-Lighty, and Nolan 1977; Green 1975; Eliot and Miles 1973; Glover 1975; Semmier and Semmier 1974; Puksta 1977; Watts 1973).

Puksta (1977) suggested that angina that is unresponsive to Nitroglycerin may be treated with Propranolol Hydrochloride. Eliot and Miles (1973) and Watts (1973) agreed that Propranolol, a beta blocking drug, may be used prophylactically to decrease heart rate and systolic blood pressure during sexual intercourse.

Some antihypertensive drugs may have side effects that impede sexual activity (Eliot and Miles 1973; Glover 1975; Moore, Folk-Lighty, and Nolan 1977; Watts 1973). Reserpine, one antihypertensive medication, may decrease

libido or even cause impotence. Aldomet may produce an inability to ejaculate. Puksta (1977) maintained that Serpasil and Aldactone may cause menstrual irregularities in women and gynomastia in men.

Glover (1975) added that tranquilizers may adversely affect a person's libido and potency. His list of medications which have the potential to impair a male's libido and capacity for erection includes: Clio-fibrate, Reserpine, Guanethidine, Hexamethonium, Methyldopa, Pentolinium, Mecamylamine, Amphetamines, all anti-depressants and alcohol. "Alcohol is a severe depressant and a contributor to premature ejaculation and impotence" (Glover 1975, p. 168).

Stein (1976) stated that many patients do not know that some drugs may cause sexual dysfunction and, therefore, fail to report this to their physicians. They attribute their inability to have an erection or ejaculate to their heart disease.

Watts (1973) emphasized that these drugs should be regulated carefully to help modify their disruptive sexual side effects. The therapeutic use and adverse side effects of these drugs should be explained to the patient to attain high patient compliance.

Moore, Folk-Lighty, and Nolan (1977) advised that if a cardiac patient and his spouse cannot return to their preillness pattern of sexual activity, the couple should see a sex therapist, marriage counselor, analyst, or a psychiatrist.

Summary

The review of literature presented a discussion of human sexuality, an intricate part of the total personality, as it pertains to the cardiac patient in the rehabilitation phase. The function of sexual activity within the marital unit was discussed. The importance of including the spouse in discharge teaching was stressed.

Much emphasis was placed on the need to assess what the patient wants to know and what his health teaching needs are. The need for nurses to be knowledgeable about human sexuality and comfortable with their own sexuality before being able to effectively advise cardiac patients about sexual activity was documented. The necessity to include a cardiac patient's sexual information needs in nursing care plans was emphasized. Studies of the cardiovascular response during sexual activity were cited. Specific guidelines on the resumption of sexual activity for the cardiac patient and his spouse were clearly explained.

Chapter III presents the method for the collection and treatment of data. Chapter IV consists of the statistical analysis of the data obtained in this study. Chapter V includes the summary, findings, implications, and recommendations of the study.

CHAPTER III

PROCEDURE FOR COLLECTION AND TREATMENT OF DATA

This research study was a descriptive survey. Abdellah and Levine (1965) stated that the main purpose of descriptive research is to obtain accurate and meaningful descriptions about the phenomena being studied.

Procedure for Collecting Data

Data for this investigation were collected to determine the information regarding the resumption of sexual activity needed by the cardiac patient and his spouse. The subjects had complete anonymity as names were not used on test results, rather numbers were used. The subjects were told in writing and verbally that they could refuse to participate in this study, or refuse to respond to any information, and that they could withdraw from the study at any time without consequence. Written evidence of informed consent was obtained from each subject (see appendix A). Any risks and benefits to the individual were made clear orally and in writing before the start of the data gathering. The Research and Investigation Involving Human Rights forms were filled out in accordance with the

guidelines of Texas Woman's University. Written permission from the two hospitals selected for the study was obtained. Physician consent was obtained prior to data collection.

Setting

The data collected for this investigation were obtained within the limits of one private hospital, Hospital A, and one nonprivate teaching hospital, Hospital B. The actual information exchange occurred within the subject's hospital room.

Population and Sample

The study population consisted of cardiac patients and spouses in the hospitals selected during September and October 1978. The study sample of ten couples was chosen from a list of all the patients fitting the criteria of this study obtained from the Nursing Kardex on coronary care and post-coronary care floors of the two hospitals chosen. On conveniently selected days, a total of fifteen cardiac patients and their spouses were asked to participate in the study, however, only ten of these couples agreed to be in this study. Upon receiving their informed consent in writing, these twenty people were surveyed for this study.

Tool

A forced Q-sort distribution tool based on the review of literature was developed by the investigator for this study. Abdellah and Levine (1965) described the Q-sort technique as a method of sorting a large number of statements concerning a certain topic into categories. Treece and Treece (1977) listed the following advantages of the Q-sort:

1. Its provision for completeness--in a questionnaire, a subject might leave some questions blank, but the Q-sort forces the subject to complete the entire operation
2. It is inexpensive to use and adaptable to many situations
3. It can be particularly well adapted to theory
4. It allows precise measurement of variables, including attitudes and beliefs of individuals
5. It is a powerful instrument for in-depth research of human attitudes and behaviors
6. Data from the Q-sort are easy to analyze

Disadvantages are:

1. It is time consuming if there are a large number of subjects
2. It is difficult to comprehend if mailed

3. It is difficult to develop valid items for the instrument

4. Subjects who are forced to place several closely related items into different categories, may sometimes make mechanical choices to "get-rid" of the cards. Even though the piles have different values, the importance of the item may differ in the mind of the subject on different days. Thus, the reliability of the tool is questionable.

The Q-sort tool consisted of forty items information on forty different index cards which related to the resumption of sexual activity after heart attack or open-heart surgery. The subject was asked to sort a specific number of cards into nine piles which varied in value, according to whether he thought the information on the cards was most important ranging on down to least important for him in terms of knowledge needed at the time of discharge. The number of piles and the specific number of cards to be placed in each pile was predetermined based on the distribution on a normal curve. According to Treece and Treece (1977):

An advantage in having the subject place a specific number in each pile is that the rater must distribute the items evenly over all the scale. He is thus forced to make a choice, and the researcher is able to measure what the subject considers average or extreme. (p. 240)

The Q-sort tool was examined by three experts in regard to its content validity. The experts included a masters prepared cardiovascular nurse, a doctorally prepared certified sex therapist, and a doctorally prepared instructor in psychology. They were asked to evaluate the tool according to the appropriateness of each item, the clarity of each item, and if there was any reason to omit an item. Any suggestions for additional items were requested for use in this study (appendix B). The final forty items were selected upon these experts' evaluations (appendix C).

After developing the items for the Q-sort tool, a pilot study was done. The tool was tested for reliability by a Test-Retest method. Five adult subjects, not included in the actual study sample, were given the tool and asked to rank the items on two consecutive days. The Pearson r , or correlation coefficient, was applied to the results of the subjects' ranking of the items on two separate occasions. This pilot study had four hundred variables to be correlated (five subjects ranking the forty items twice). The Pearson r was .68, which was considered to be a reliable score. The tool was statistically significant to the .00001 level of significance. Thus, the tool was considered to be reliable for this study.

Collection of Data

Data were collected in the hospital room of the subject taking the Q-sort tool. The data were collected from the ranking of the items in the Q-sort tool administered. The different piles were assigned numerical values from one to nine, and scores on each item were obtained according to which pile the sorter placed the item in. For example, there were nine piles and pile number nine represents items which are most important for the sorter. Any item placed in that pile assumed a value of nine, the highest possible score. In this way, each sorter assigned each item a value when he completed the Q-sort tool (appendix D).

Treatment of Data

The data collected from each of the twenty subjects came from their sorting of the forty items of information. The twenty scores assigned to each item by the subjects were added together and divided by twenty in order to determine the average value of each item. In this way, the means of each of the forty items were calculated. The researcher rank ordered the forty means in a list according to their numerical value. For example, those items with the highest scores indicated the most important items of information as perceived by the sample group. A popular

item may have had a score of 8.5 and be high on the list, whereas, a less important item of information may have had a mean of 1.0. The ten most important or least important items of information were easily identified and noted for teaching implications for cardiovascular nurses.

The data collected were also analyzed according to smaller subgroups within the sample. The sample was divided into eight subgroups according to the variables: (a) diagnosis--myocardial infarction patients or open-heart patients; (b) subject classification--patient group or spouse group, (c) hospital group--hospital A or hospital B; (d) sex; (e) race--Caucasian or Black; (f) age--less than 49 years old or greater than or equal 49; (g) income bracket--less than \$19,500/year or more than or equal to \$19,500/year; and (h) number of years married--less than twenty years or twenty years and more. The divisions among the subgroups were calculated after the data were collected which allowed each group to have a nearly equal number of subjects. The data collected from these various groups were obtained in the same manner as described above for the total group. For example, the scores given to the forty items by the MI patients were rank ordered by calculating the mean score for each item. These means were compared with the mean scores given to the forty items by

the open-heart patients. The correlation coefficient of these two groups' scores was calculated to note the degree of relationship between these two groups and any implications to be drawn (appendix E). The data from the other group scores were treated in the same fashion. These individual group item means were rank ordered so that the priority learning needs of each group was determined.

Summary

Chapter III described the procedure utilized to collect and analyze the data for this study. The study sample population and setting were described. The development and use of the Q-sort tool was explained. Chapter IV describes the statistical analysis of the data obtained. Chapter V consists of the summary, findings, implications, and recommendations of the study.

CHAPTER IV

ANALYSIS OF DATA

Data in this descriptive survey were collected to determine what cardiac patients and their spouses want to know about resuming sexual activity after discharge from the hospital. Ten cardiac patients and their spouses were asked to rank order the forty items in the Q-sort tool developed for this study. The data, obtained from the rank ordering of the forty items of information concerning the resumption of sexual activity, indicated what the subjects perceived as being most or least important to know. The mean scores of the forty items were analyzed according to which items of information received high scores, indicating high priority and those receiving low scores, indicating low priority on a scale of one to nine, nine being a high value. The following variables were examined to note their influence on the Q-sort tool results:

- classification of the subjects (patient vs. spouse)
- sex of the subject
- age of the subject (under 49 vs. over 49)
- diagnosis of the patient (M.I. vs. CABG)

- hospital type where subject was found (public vs. private)
- race of the subjects (Caucasian vs. Black)
- annual income of the subjects (under \$19,500 vs. over \$19,500)
- number of years married (under 20 years vs. over 20 years)

Description of the Sample

The study sample consisted of twenty subjects--ten patients and their spouses. The patients were within one week of discharge and had a diagnosis of myocardial infarction (M.I.) or coronary artery bypass graft (CABG) surgery. The subjects were between the ages of 35 and 63. Ten of the subjects were under 49 years of age and ten were 49 years old or older. There were six patients who had suffered an M.I., one of which was a female; and there were four patients who had undergone open-heart surgery, one of which was a female. Eight of the subjects were from Hospital A, the large county teaching hospital, and twelve of the subjects were from Hospital B, a private hospital. Twelve of the subjects had an annual income less than \$19,500, while eight had an annual income equal to or greater than \$19,500. Although attempts were made to include a larger sample of Black subjects, only one Black

couple agreed to participate in the study and met the criteria for this study. Half of the subjects had been married less than ten years, and the rest had been married ten years or more.

As mentioned earlier, fifteen couples were approached for their participation in the study, however, five couples refused for the following reasons:

1. A 49-year-old Black male, post-M.I., refused, stating that he had no interest in sex any more because they "didn't fool around any more" since the wife had gone through her "change of life"

2. A 52-year-old male CABG patient refused to participate because there was "enough sex on T.V. "and he felt it was talked about too much already. He added that if he did have any questions he would ask his doctor, not his nurse

3. A 47-year-old, Caucasian female spouse of a patient post-CABG refused for her husband in front of him, stating simply that "he wasn't interested"

4. Two couples between the ages of 69 and 72 refused because they "were too old for 'that'"

Other patients who were willing to participate, but could not because they did not meet the criteria of this study included:

1. Two Mexican couples who were not able to read English but could speak and understand the English language
2. A 50-year-old male Black patient post-M.I., who was blind in one eye and needed glasses he did not have, to be able to read with his other eye
3. A 45-year-old Caucasian male post M.I. was separated from his wife and had no other intimate relationships

Data Analysis

Data obtained from the forty-item Q-sort tool were analyzed to determine which information is perceived by cardiac patients and their spouses as being important or not important, at time of discharge, concerning the resumption of sexual activity. The subjects were asked to rank order forty index cards, each of which had one question concerning the resumption of sexual activity post-M.I. or post-CABG, on a scale of one to nine, according to how important they considered the question and its answer to be to them at the time of discharge. Because the tool was a forced Q-sort, each subject had to place a certain number of cards in each of the nine piles, and thus, make priority decisions about individual informational needs.

The Q-sort values obtained for each item were averaged, and the item means were ranked from highest to

lowest to determine those items of information perceived by the subjects as being most or least important to them. The ten most important informational needs as perceived by the total study sample (n = 20) are listed in table 3 in order of numerical value, from highest to lowest.

TABLE 3
THE TEN MOST IMPORTANT ITEMS AS PERCEIVED
BY THE TOTAL SAMPLE

Q-Sort Item #	Score	Question
21	6.40	What are the warning signs to stop sexual activity?
14	6.25	When after discharge can sexual intercourse be resumed?
2	6.20	What are the chances for chest pain with sexual activity?
3	6.20	What should one do if there is chest pain with sexual activity?
4	6.15	What are the chances of having a heart attack with sexual activity?
35	6.15	Are there any restrictions upon sexual activity?
39	6.10	How frequently can a heart patient have sexual activity?
31	5.95	Is foreplay in sexual activity safe on the heart?
5	5.95	What are the chances for death with sexual activity?
15	5.85	How much energy does sexual activity demand from the heart?

The most important items dealt with prevention of further heart damage by knowing what the warning signs to stop are, as well as questions as to "when" and "how" sexual relations should be resumed.

The ten least important information needs of the study sample were determined by noting those item means with the ten lowest scores. The ten items ranked by the total sample as being of least importance to them to know are listed in table 4, from the lowest score upward. The ten items which were of least importance or of least interest to the sample concerned: forms of sexual expression other than sexual intercourse, extramarital affairs, possibility of any changes in sexual powers, and the effects of smoking, alcohol, birth control pills, room temperature, and time of day upon sexual activity risks.

The eight variables mentioned previously were analyzed by dividing the total sample into subgroups according to their classification, age, sex, diagnosis, hospital, yearly income, race, and number of years married. The item means of each subgroup were calculated and compared with each subgroup's individual ranking of the Q-sort items. Appendixes F and G compare the top ten and the bottom ten items of the various subgroups, respectively. Appendix H lists the ten most important and the ten least important

TABLE 4
THE TEN LEAST IMPORTANT ITEMS AS PERCEIVED
BY THE TOTAL SAMPLE

Q-Sort Item #	Score	Question
11	2.95	When is masturbation considered to be a safe form of sexual activity?
38	3.00	What additional risks do oral contraceptives present for female cardiac patients?
10	3.10	Are there additional risks involved with extramarital affairs?
12	3.70	Is oral sexual activity safe for a heart patient?
23	3.75	How does the temperature of the room affect sexual activity?
13	3.75	Is anal sexual activity safe for a heart patient?
17	3.90	Does alcohol intake affect sexual activity risks?
6	4.05	Will the male patient's ability to have an erection be altered?
18	4.25	Does smoking affect sexual activity risks?
8	4.25	Is there a certain recommended time of day that is best for sexual activity?

items ranked by the various subgroups, not already presented in this chapter in tables.

Appendixes F and G show the discrepancies and similarities between the informational needs of each group respectively. There is much agreement on the most

important items, and even more agreement on the least important items.

The Pearson r was used to note the degree of correlation between some of the major subgroups. The correlation coefficient was applied to the rank ordering of the forty items by the patient group ($n = 10$) versus the spouse group ($n = 10$) and an r value of .45 ($p < .004$) was obtained. This low r value indicated a moderate difference in informational needs and hence a difference in learning priorities. Table 5 lists the most important items of the Q-sort tool as perceived by the patients. From the table, the topics of most importance to patients are found to be associated with the following aspects of lovemaking: foreplay, frequency, restrictions, when to resume, and warning signs to stop. The patients did not feel that it was important to know about the possibility of chest pain, heart attack or death with sexual activity, although these concerns were among the top ten for the sample population as a whole. The patient group was concerned about the effect of depression upon sexual activity.

The ten most important items according to the spouse group are listed in table 6. The spouse group gave an especially high priority to the items dealing with the possibility of causing chest pain, heart attack, or death

TABLE 5
THE TEN MOST IMPORTANT ITEMS AS PERCEIVED
BY THE PATIENT GROUP

Q-Sort Item #	Score	Question
31	7.00	Is foreplay in sexual activity safe on the heart?
39	6.30	How frequently can a heart patient have sexual activity?
21	6.30	What are warning signs to stop sexual activity?
16	6.30	Should nitroglycerin be used before or during sexual activity?
14	6.10	When after discharge can sexual intercourse be resumed?
35	6.00	Are there any restrictions upon sexual activity?
30	5.90	Can depression affect sexual activity?
26	5.80	Will heart rate increase with sexual activity?
36	5.70	Can one return to prehospitalization patterns of lovemaking?
20	5.60	How will the spouse feel about resuming sexual activity at home?

from sexual activity. The spouses also felt that the items concerning the role of the spouse in facilitating the patient's return to former patterns of sexual activity were of importance. Most of the spouses were female and there was a great similarity in the rank ordering of the items by the female subgroup.

TABLE 6
THE TEN MOST IMPORTANT ITEMS AS PERCEIVED
BY THE SPOUSE GROUP

Q-Sort Item #	Score	Question
4	7.50	What are the chances of having a heart attack with sexual activity?
2	7.40	What are the chances for chest pain with sexual activity?
3	7.30	What should one do if there is chest pain with sexual activity?
5	7.10	What are the chances for death with sexual activity?
15	6.90	How much energy does sexual activity demand from the heart?
37	6.60	How can the spouse help the patient return to former patterns of sexual activity?
21	6.50	What are the warning signs to stop sexual activity?
14	6.40	When after discharge can sexual intercourse be resumed?
35	6.30	Are there any restrictions upon sexual activity?
20	6.10	How will the spouse feel about resuming sexual activity at home?

The ten items of least importance to the patient group were also noted and are listed in table 7. They did not feel it was important to know about the possibility of any change in their sexual powers, nor did they consider the items about extramarital affairs, or forms of sexual

expression other than sexual intercourse, or the risks associated with birth control pills to be relevant to their learning needs.

TABLE 7

THE TEN LEAST IMPORTANT ITEMS AS PERCEIVED
BY THE PATIENT GROUP

Q-Sort Item #	Score	Question
6	3.00	Will the male patient's ability to have an erection be altered?
38	3.20	What additional risks do oral contraceptives present for female cardiac patients?
11	3.60	When is masturbation considered to be a safe form of sexual activity?
10	3.60	Are there additional risks involved with extramarital affairs?
1	3.70	Are there recommended positions for sexual intercourse?
8	4.30	Is there a certain recommended time of day that is best for sexual activity?
12	4.40	Is oral sexual activity safe for a heart patient?
23	4.60	How does the temperature of the room affect sexual activity?
17	4.60	Does alcohol intake affect sexual activity risks?
13	4.60	Is anal sexual activity safe for a heart patient?

The items which were of least importance to the spouse group included many of the same items depicted as being least important by the patient group. However, the

question chosen by the patient group as being of the very least importance and having the lowest score, "6--Will the male patient's ability to have an erection be altered?" was not listed among the ten least important items by the spouse group. The ten items which are least important to the spouse group are listed in table 8.

TABLE 8
THE TEN LEAST IMPORTANT ITEMS AS PERCEIVED
BY THE SPOUSE GROUP

Q-Sort Item #	Score	Question
11	2.30	When is masturbation considered to be a safe form of sexual activity?
10	2.60	Are there additional risks involved with extramarital affairs?
38	2.80	What additional risks do oral contraceptives present for female cardiac patients?
23	2.90	How does the temperature of the room affect sexual activity?
13	2.90	Is anal sexual activity safe for a heart patient?
12	3.00	Is oral sexual activity safe for a heart patient?
17	3.20	Does alcohol affect sexual activity risks?
18	3.60	Does smoking affect sexual activity risks?
34	3.90	Is sleeplessness normal after sexual activity?
40	4.00	Do the surroundings affect sexual activity risks?

The Pearson r was also applied to note the relation between the ranking of the subject group associated with myocardial infarction ($n = 12$) and the subject group associated with coronary artery bypass graft surgery ($n = 8$). This correlation coefficient was .69 ($p < .001$), which indicated a moderate to high degree of correlation. However, the most significant differences were in the top two choices of the most important items. The CABG group felt that the issues about the chances for heart attack and death with sexual activity were of the highest priority. The M.I. group did not include these items in their "top ten" list, while the two most important items according to the M.I. group were not among the top ten list of the CABG group. The M.I. group assigned the highest values to the questions of when could sexual relations be resumed and were there any restrictions.

The correlation coefficient between the two groups formed according to the number of years married was calculated. The scores assigned to the forty items by the group married less than twenty years ($n = 10$) was compared with the scores of the group married twenty years or more ($n = 10$), and the r value obtained was .77 ($p < .0001$), which indicated a similarity in the two groups' learning priorities. Those married less than twenty years placed their

highest values upon the items dealing with restrictions, when sexual relations could be resumed, chances of chest pain, and warning signs. The group married over twenty years were concerned about warning signs, restrictions, chances for heart attack or death, and feelings of the spouse.

The sample was divided into two income brackets: those whose gross annual income was less than \$19,500 ($n = 12$), and those whose gross annual income was \$19,500 or more ($n = 8$). The correlation coefficient for those two groups was .74 ($p < .0001$) which indicated a high degree of correlation. The differences noticed in the ten most important items of each group were that the group under \$19,500 perceived knowing the energy used in sexual activity as being most important while the group over \$19,500 did not consider this topic important enough to go in their top ten. The group over \$19,500 gave items on chances for heart heart attack or death with sexual activity very high scores.

An examination of the responses of the two age groups within the study revealed that those 49 years of age or older ($n = 9$) considered items on the chances for heart attack or death with sexual activity of utmost importance, while those under 49 years of age ($n = 11$) did

not rank these items in their ten most important topics list. Also, those under 49 regarded knowing "how frequently" and if there were any restrictions upon sexual activity as being most important to them, while these two aspects were not found in the top ten list of the 49 or older group.

There was a marked difference in the responses of the two hospital groups. The group from Hospital A (n = 6), the large county hospital, was concerned most about what to do if there was chest pain with sexual activity and about any changes in heart rate, blood pressure, and respiratory rate. The private hospital group, hospital B (n = 14) did not rank these items as being important; rather, this group chose the items referring to "when" sexual relations could be resumed, warning signs, and chances for death as their top priorities. There was very close agreement between the Hospital A group and the Black group, as the Black group constituted one-third of the Hospital A group.

Summary

The data obtained from the Q-sort tool were analyzed to determine what cardiac patients and their spouses perceived is important to know at the time of discharge concerning the resumption of sexual activity. The ten most

important and the ten least important learning needs of the sample were determined by calculating the forty-item means and noting those items with the ten highest and ten lowest scores. The data were further broken down by dividing the sample into sixteen subgroups, to study the effect of the eight variables recognized in this study: subject classification, sex, diagnosis, race, hospital type, income bracket, years married, and age. The degree of correlation between the various subgroups was obtained and analyzed to distinguish between the learning needs of each of the subgroups. Chapter V includes a summary and discusses the findings, implications, and recommendations for further study.

CHAPTER V

SUMMARY, FINDING, IMPLICATIONS, AND RECOMMENDATIONS

Summary of the Study

A descriptive survey was conducted to determine what cardiac patients and their spouses want to know at the time of discharge concerning the resumption of sexual activity. The conceptual framework was built upon Broderick and Bernard's (1969) theory of socio-sexual development and Borgman's (1975) concept of cardiac rehabilitation. The review of literature revealed a scarcity of research regarding the resumption of sexual activity for cardiac patients and the importance of this activity to the well-being of the cardiac patient as an individual and as a social being. The literature review also presented the need for nurses to include the patient's sexuality in their plan for total patient care to be effective patient educators. A Q-sort tool was developed by the investigator and utilized to identify the level of importance of forty items related to sexual activity after a myocardial infarction or coronary artery bypass graft surgery.

The study sample consisted of ten cardiac patients, post-M.I. or CABG surgery, and their spouses, all of whom were chosen conveniently from two hospitals in a large Southwest metropolitan area. The ten most important informational needs of the total sample and the ten items of least important to the total sample were identified by the sample's rank ordering of all forty items. The sample's responses were categorized into responses of the subsamples within the sample population to determine if learning needs varied with the age, sex, classification (patient or spouse), diagnosis, hospital type, and income bracket of the subject. The ten informational needs perceived as being most important to each subsample, and the ten items of information perceived as being least important by each subsample were compared with the other subsamples and the degree of relationship noted.

The sexual information needs of greatest importance to the sample focused on the following topics: the warning signs to stop sexual activity, the chances for angina, heart attack, or death with sexual activity, and when sexual activity could be resumed and how frequently. The least important sexual information needs perceived by the sample concerned advice on sexual activity other than sexual intercourse, i.e., masturbation, oral/anal sexual

activity, the additional risks involved with extramarital affairs, alcohol intake, smoking, certain room temperatures, and certain times of the day.

The data indicated a low to moderate correlation between the priority of the sexual information needs of the cardiac patients and that of their spouses. Also, the priority of the learning needs of cardiac patients and their spouses regarding the resumption of sexual activity varied with the diagnosis, age, sex, race, income level, and number of years married of the subject.

Findings

The findings of this study were:

1. Cardiac patients and their spouses generally want to know: (a) the warning signs to stop sexual activity, (b) when after discharge sexual intercourse can be resumed and how frequently, (c) the chances of having chest pain, a heart attack, or death resulting from sexual activity, (d) what to do if there is chest pain with sexual activity, (e) if foreplay is safe, and (f) how much energy sexual activity demands from the heart
2. Cardiac patients and their spouses differ in the priority of their informational needs regarding resuming sexual activity

3. Patients post-M.I. and those patients post-CABG differ in the priority of their informational needs regarding the resumption of sexual activity

4. The priority of the learning needs of cardiac patients and their spouses regarding the resumption of sexual activity varies with the age of the patient and his spouse

5. Cardiac patients and their spouses from different economic levels have different learning priorities regarding the resumption of sexual activity

6. Cardiac patients and their spouses generally perceive the following items concerning the resumption of sexual activity as being of least importance to know:

(a) when masturbation is considered to be a safe form of sexual expression, (b) the additional risks involved for female cardiac patients who use oral contraceptives, (c) the additional risks involved with extramarital affairs, (d) if oral and/or anal sexual activity is safe to resume, (e) the extra risks in sexual activity associated with smoking cigarettes or alcohol indulgence, and (f) any recommendations regarding the time of day or temperature of the room with sexual activity

Incidental Findings

The following were incidental findings of the study:

1. Not all cardiac patients and their spouses want to discuss their resumption of sexual activity with a nurse as a part of discharge teaching

2. The literature suggests specific information regarding the resumption of sexual activity to be exchanged with cardiac patients and their spouses, some of which is not relevant to certain cardiac patients and their spouses

Implications

Based on the findings of the study, the following are implications for nursing practice:

1. Nurses need to be aware of the most important and least important sexual informational needs of cardiac patients and their spouses as found in this study.

2. Nurses should be aware that a cardiac patient and his spouse's learning needs may vary. Spouses were very concerned about harming the patient by engaging in sexual activity with him and clearly want to know if sexual activity is likely to result in chest pain, another heart attack, or even, death. Cardiac patients were concerned about aspects of sexuality generally associated with the

"active" role in sexual activity, i.e., foreplay, frequency, when sexual activity may be initiated, any restrictions, and warning signs to stop sexual activity. Cardiac patients post-M.I. felt information regarding the chances for chest pain, heart attack, or death unimportant. It is possible that they feared the answer and would rather have not known it or they really did not care about the answer because they planned to resume sexual activity regardless of their chances for angina, infarction, or death.

3. Nurses must learn to identify the cardiac patient's and spouse's sexual information needs on an individual basis.

4. Nurses should include the cardiac patient's spouse in the patient's rehabilitation.

5. Nurses should be aware that younger cardiac patients and their spouses (under 49 years old) were concerned about the effect of the M.I. or CABG upon sexual activity frequency, restrictions, and time to resume. Older cardiac patients and their spouses (49 years old or more) were more concerned about bringing on chest pain, heart attack, or death with sexual activity.

6. Nurses should be aware that patients post-M.I. have different priority in sexual informational needs than those patients post-CABC surgery. Cardiac patients and

their spouses post-CABG felt that issues concerning the chances for heart attack and death with sexual activity were of the highest priority. The post-M.I. subjects assigned the highest values to the topics of when sexual relations could be resumed and the possibility of restrictions with sexual activity.

7. Nurses need to know that cardiac patients from the public hospital wanted to know about normal physiological changes with sexual activity, i.e., changes in heart rate, blood pressure, and respiratory rate. Cardiac patients from the private hospital felt that information concerning when sexual relations could be resumed, warning signs to stop sexual activity, and the chances for death with sexual activity was of top priority to know.

Recommendations

The following are recommendations for further study:

1. A similar study should be done:
 - a. With a larger more diverse sample
 - b. With a larger more diverse sample, focusing on the age of the sample
 - c. With the data obtained at the patient's first follow-up visit after discharge

d. With cardiac nurses completing the Q-sort tool and comparing their perception of the cardiac patient's and his spouse's sexual informational needs to those actually perceived by the cardiac patient and his spouse

2. Research should be conducted to determine cardiac nurses' attitudes about teaching cardiac patients and their spouses about resuming sexual activity

3. A study should be performed to determine cardiac patients' and their spouses' attitudes about having cardiac nurses include sexual activity in their discharge teaching

4. Based on the results of this study, a cardiac patient education program regarding the resumption of sexual activity should be set up, implemented, and evaluated

APPENDIXES

APPENDIX A

Title of Study: "Sexual Activity Information Needs of the Cardiac Patient and Spouse"

Investigator's Name: Joanne Rita Morin, R.N., B.S.

LAY STATEMENT to INSURE INFORMED CONSENT:

The research I am asking you to participate in is a descriptive survey to determine what cardiac patients and their spouses want to know prior to discharge regarding the resumption of sexual activity. I will ask you to sort items of information concerning sexual activity written on index cards, according to how important you feel knowing that information is to you. This will be done in your (or your spouse's) hospital room for privacy.

Possible Benefits:

Knowledge gained from this study can be used to improve the quality of discharge teaching given to cardiac patients and their spouses. Unnecessary anxiety over the resumption of sexual activity after a heart attack or heart surgery may be decreased through new knowledge given to patients and their spouses.

Potential Risks:

The possible risks or discomforts involved with this study are: 1) personal embarrassment--you may find some of the information embarrassing, 2) public embarrassment, or 3) improper release of data--if confidential data gets in the hands of a malicious individual.

To protect your individual rights and welfare, your name will not be used in the study. You have the right to refuse to participate in this study without risk or consequence to your welfare or care. You can also refuse to respond to any questions or may drop out from the study at any time without penalty or consequence to your care or welfare. This study has been explained to you verbally and in writing as above. You have had your questions answered to your satisfaction and you understand that you may ask questions at any time.

SIGNATURES OF VOLUNTARY INFORMED CONSENT:

Subject's signature

Date

Designee of the subject to sign
if the subject cannot sign

Date

Witness

Date

APPENDIX B

PANEL OF EXPERTS

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THE SEXUAL ACTIVITY INFORMATION NEEDS OF
CARDIAC PATIENTS AND THEIR SPOUSES

The following questions are specific topics concerning the resumption of sexual activity following myocardial infarction or open heart surgery on which the subject may want information at the time of discharge from the hospital. The forty items of information will be placed on forty different index cards in the Q-sort tool for the subject to rank in order of importance to his learning needs.

Please read each question carefully and decide if the question meets the following criteria:

A. Is the item a question that might be of concern to a patient or the spouse of a patient who had a myocardial infarction or open heart surgery?

B. Is the question written clearly and without ambiguity?

C. Is there any reason to omit the question?

Please add any additional question items which you feel might be of concern to the subjects but are not already listed. In order to be statistically sound, the Q-sort tool should contain no less than forty items.

Thank you.

APPENDIX C

THE SEXUAL ACTIVITY INFORMATION NEEDS OF
CARDIAC PATIENTS AND THEIR SPOUSES

- A. Is the item a question that might be of concern to a patient or the spouse of a patient who had a myocardial infarction or open heart surgery?
- B. Is the question written clearly and without ambiguity?
- C. Is there any reason to omit the question?

QUESTIONS	A		B		C	
	Yes	No	Yes	No	Yes	No
1. What is the recommended position for sexual intercourse?						
2. What are the chances for chest pain with sexual activity?						
3. What are the chances of having a heart attack with sexual activity?						
4. What are the chances for death with sexual activity?						
5. Will the male patient's ability to have an erection be altered?						
6. Will there be an change in the capacity for orgasm?						
7. Is there a certain time of day that is best for sexual activity?						

QUESTIONS	A		B		C	
	Yes	No	Yes	No	Yes	No
8. Is it necessary to rest after meals before having sexual activity?						
9. Are there additional risks involved with extramarital affairs?						
10. Is masturbation a safe form of sexual activity on the heart?						
11. Is oral sexual activity safe for a heart patient?						
12. Is anal sexual activity safe for a heart patient?						
13. When after discharge can sexual activity be resumed?						
14. How much energy does sexual activity demand from the heart?						
15. Should nitroglycerin be used before or during sexual activity?						
16. Does alcohol intake affect sexual activity risks?						
17. Does smoking affect sexual activity risks?						
18. Will there be any changes in sexual desire?						
19. How will the spouse feel about resuming sexual activity at home?						

QUESTIONS	A		B		C	
	Yes	No	Yes	No	Yes	No
20. What are warning signs to stop sexual activity?						
21. Will medications affect sexual ability?						
22. How does the temperature of the room affect sexual activity?						
23. Is shortness of breath to be expected with sexual activity?						
24. Is it normal to breathe at a faster rate during sexual activity?						
25. Will heart rate increase with sexual activity?						
26. Will blood pressure change during sexual activity?						
27. Are palpitations of the heart normal during sexual activity?						
28. Are there any past studies of sexual activity ability in cardiac patients?						
29. Can depression affect sexual activity?						
30. Is foreplay in sexual activity safe on the heart?						
31. Is fatigue normal with sexual activity?						

QUESTIONS	A		B		C	
	Yes	No	Yes	No	Yes	No
32. Does emotional stress affect sexual activity?						
33. Is sleeplessness normal after sexual activity?						
34. Are there any restrictions upon sexual activity?						
35. Can one return to pre-hospitalization patterns of sexual activity?						
36. How can the spouse help the patient return to former patterns of sexual activity?						
37. Should contraceptives be used by cardiac patients?						
38. Is maintenance of the same sexual partner recommended?						
39. How frequently can a heart patient have sexual activity?						
40. Do the surroundings affect sexual activity risks?						

FINAL FORTY ITEMS IN Q-SORT TOOL

1. Are there recommended positions for sexual activity?
2. What are the chances for chest pain with sexual activity?
3. What should one do if there is chest pain with sexual activity?
4. What are the chances of having a heart attack with sexual activity?
5. What are the chances for death with sexual activity?
6. Will the male patient's ability to have an erection be altered?
7. Will there be a change in the capacity for orgasm?
8. Is there a certain recommended time of day that is best for sexual activity?
9. What are the advantages of resting after meals, prior to sexual interaction?
10. Are there additional risks involved with extramarital affairs?
11. When is masturbation considered to be a safe form of sexual activity?
12. Is oral sexual activity safe for a heart patient?
13. Is anal sexual activity safe for a heart patient?
14. When after discharge can sexual intercourse be resumed?
15. How much energy does sexual activity demand from the heart?

16. Should nitroglycerin be used before or during sexual activity?
17. Does alcohol intake affect sexual activity risks?
18. Does smoking affect sexual activity risks?
19. Will there be any changes in sexual desire?
20. How will the spouse feel about resuming sexual activity at home?
21. What are warning signs to stop sexual activity?
22. Will medications affect sexual ability?
23. How does the temperature of the room affect sexual activity?
24. Is shortness of breath to be expected with sexual activity?
25. Is it normal to breathe at a faster rate during sexual activity?
26. Will heart rate increase with sexual activity?
27. Will blood pressure change during sexual activity?
28. Are palpitations of the heart normal during sexual activity?
29. Are there any past studies of sexual activity ability in cardiac patients?
30. Can depression affect sexual activity?
31. Is foreplay in sexual activity safe on the heart?
32. Is fatigue normal with sexual activity?

33. Does emotional stress affect sexual activity?
34. Is sleeplessness normal after sexual activity?
35. Are there any restrictions upon sexual activity?
36. Can one return to pre-hospitalization patterns of lovemaking?
37. How can the spouse help the patient return to former patterns of sexual activity?
38. What additional risks do oral contraceptives present for female cardiac patients?
39. How frequently can a heart patient have sexual activity?
40. Do the surroundings affect sexual activity risks?


APPENDIX D

METHOD OF OBTAINING SCORES FROM EACH SUBJECT OF EACH ITEM

[illegible]

APPENDIX E

	X	Y
Items	Means of M.I. Patients	Means of C.A.B.G. Patients
1		
2		
3		
4		
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r_{xy}

APPENDIX F

COMPARISON OF THE TEN MOST IMPORTANT ITEMS BY VARIABLES

[illegible]

APPENDIX G

COMPARISON OF THE TEN LEAST IMPORTANT ITEMS BY VARIABLES

Q-sort item #	Total	Patient	Spouse	Q ₁	Q ₂	M.I.	CABG	Black	Caucasian	Hosp. A	Hosp. B	Income < \$19,500	Income ≥ \$19,500	Married < 20 years	Married ≥ 20 years	< 49 yrs. old	≥ 49 yrs. old
1		5	4			7		5		3		7		6			5
2																	
3																	
4																	
5																	
6	8	1		5		8	9	3	9	5	10	6		8	7	6	10
7								6		9							
8	10	6		7		5			10	6		9		10	10		6
9								7									
10	3	4	2	3	2	4	2		1	7	1	2	2	5	1	3	3
11	1	3	1	1	4	2	4	1	3	1	5	1	3	2	3	2	4
12	4	7	6	6	7		1		4		4	5	5		2		1
13	6	10	5	9	5	6	5		5		3	4	7	4	8		2
14																	
15																	
16																	
17	7	9	7		3		3		6		6	10	6	9	4	5	8
18	9		8	10	10	9	6		8	10					6	8	
19								8		8	9		10				
20																	
21																	
22																	
23	5	8	4	8	6	3	10	2	7	4	8	8	4	3	9	4	9
24																	
25													8				
26																	
27																	
28																	
29																10	
30																	
31																	
32														7			
33																	
34			9		8		8						9			9	
35																	
36																	
37								9									
38	2	2	3	2	1	1	7	4	2	2	2	3	1	1	5	1	7
39																	
40			10		9	10		10			7					7	

APPENDIX H

TEN MOST IMPORTANT ITEMS PERCEIVED
BY THE "MALE" GROUP

<u>Q-Sort Item #</u>	<u>Score</u>	<u>Question</u>
31	6.60	Is foreplay in sexual activity safe on the heart?
16	6.50	Should nitroglycerin be used before or during sexual activity?
21	6.30	What are warning signs to stop sexual activity?
14	6.20	When after discharge can sexual intercourse be resumed?
4	6.20	What are the chances of having a heart attack with sexual activity?
39	6.10	How frequently can a heart patient have sexual activity?
35	6.00	Are there any restrictions upon sexual activity?
3	5.90	What should one do if there is chest pain with sexual activity?
20	5.80	How will the spouse feel about resuming sexual activity at home?
36	5.80	Can one return to prehospitalization patterns of lovemaking?

TEN LEAST IMPORTANT ITEMS PERCEIVED

BY THE "MALE" GROUP

<u>Q-Sort Item #</u>	<u>Score</u>	<u>Question</u>
11	2.80	When is masturbation considered to be a safe form of sexual activity?
38	3.30	What additional risks do oral contraceptives present for female cardiac patients?
10	3.50	Are there additional risks involved with extramarital affairs?
1	3.50	Are there recommended positions for sexual intercourse?
6	3.60	Will the male patient's ability to have an erection be altered?
12	3.70	Is oral sexual activity safe for a heart patient?
8	4.00	Is there a certain recommended time of day that is best for sexual activity?
23	4.00	How does the temperature of the room affect sexual activity?
13	4.20	Is anal sexual activity safe for a heart patient?
18	4.30	Does smoking affect sexual activity risks?

TEN MOST IMPORTANT ITEMS PERCEIVED
BY THE "FEMALE" GROUP

<u>Q-Sort Item #</u>	<u>Score</u>	<u>Question</u>
2	7.20	What are the chances for chest pain with sexual activity?
21	6.50	What are warning signs to stop sexual activity?
15	6.50	How much energy does sexual activity demand from the heart?
3	6.50	What should one do if there is chest pain with sexual activity?
5	6.40	What are the chances for death with sexual activity?
35	6.30	Are there any restrictions upon sexual activity?
14	6.30	When after discharge can sexual intercourse be resumed?
37	6.20	How can the spouse help the patient return to former patterns of sexual activity?
39	6.10	How frequently can a heart patient have sexual activity?
4	6.10	What are the chances of having a heart attack with sexual activity?

TEN LEAST IMPORTANT ITEMS PERCEIVED
BY THE "FEMALE" GROUP

<u>Q-Sort Item #</u>	<u>Score</u>	<u>Question</u>
38	2.70	What additional risks do oral contraceptives present for female cardiac patients?
10	2.70	Are there additional risks involved with extramarital affairs?
17	2.90	Does alcohol intake affect sexual activity risks?
11	3.10	When is masturbation considered to be a safe form of sexual activity?
13	3.30	Is anal sexual activity safe for a heart patient?
23	3.50	How does the temperature of the room affect sexual activity?
12	3.70	Is oral sexual activity safe for a heart patient?
34	4.10	Is sleeplessness normal after sexual activity?
40	4.20	Do the surroundings affect sexual activity risks?
18	4.20	Does smoking affect sexual activity risks?

TEN MOST IMPORTANT ITEMS PERCEIVED
BY THE "MI" GROUP

<u>Q-Sort Item #</u>	<u>Score</u>	<u>Question</u>
14	6.50	When after discharge can sexual inter- course be resumed?
35	6.40	Are there any restrictions upon sexual activity?
21	6.20	What are warning signs to stop sexual activity?
3	6.10	What should one do if there is chest pain with sexual activity?
36	6.00	Can one return to prehospitalization patterns of lovemaking?
31	5.90	Is foreplay in sexual activity safe on the heart?
37	5.90	How can the spouse help the patient return to former patterns of sexual activity?
39	5.90	How frequently can a heart patient have sexual activity?
2	5.90	What are the chances for chest pain with sexual activity?
26	5.80	Will heart rate increase with sexual activity?

TEN LEAST IMPORTANT ITEMS PERCEIVED
BY THE "MI" GROUP

<u>Q-Sort Item #</u>	<u>Score</u>	<u>Question</u>
38	2.30	What additional risks do oral contraceptives present for female cardiac patients?
11	3.40	When is masturbation considered to be a safe form of sexual activity?
23	3.41	How does the temperature of the room affect sexual activity?
10	3.50	Are there additional risks involved with extramarital affairs?
8	3.75	Is there a certain recommended time of day that is best for sexual activity?
13	3.91	Is anal sexual activity safe for a heart patient?
1	4.00	Are there recommended positions for sexual intercourse?
6	4.00	Will the male patient's ability to have an erection be altered?
18	4.41	Does smoking affect sexual activity risks?
40	4.41	Do the surroundings affect sexual activity risks?

TEN MOST IMPORTANT ITEMS PERCEIVED
BY THE "CABG" GROUP

<u>Q-Sort Item #</u>	<u>Score</u>	<u>Question</u>
4	7.12	What are the chances of having a heart attack with sexual activity?
5	6.75	What are the chances for death with sexual activity?
21	6.62	What are warning signs to stop sexual activity?
2	6.62	What are the chances for chest pain with sexual activity?
39	6.37	How frequently can a heart patient have sexual activity?
20	6.25	How will the spouse feel about resuming sexual activity at home?
3	6.25	What should one do if there is chest pain with sexual activity?
31	6.00	Is foreplay in sexual activity safe on the heart?
27	5.87	Will blood pressure change during sexual activity?
15	5.87	How much energy does sexual activity demand from the heart?

TEN LEAST IMPORTANT ITEMS PERCEIVED
BY THE "CABG" GROUP

<u>Q-Sort Item #</u>	<u>Score</u>	<u>Question</u>
12	2.00	Is oral sexual activity safe for a heart patient?
10	2.50	Are there additional risks involved with extramarital affairs?
17	2.75	Does alcohol intake affect sexual activity risks?
11	2.87	When is masturbation considered to be a safe form of sexual activity?
13	3.50	Is anal sexual activity safe for a heart patient?
18	4.00	Does smoking affect sexual activity risks?
38	4.00	What additional risks do oral contraceptives present for female cardiac patients?
34	4.00	Is sleeplessness normal after sexual activity?
6	4.12	Will the male patient's ability to have an erection be altered?
23	4.25	How does the temperature of the room affect sexual activity?

TEN MOST IMPORTANT ITEMS PERCEIVED
BY THE "BLACK" GROUP

<u>Q-Sort Item #</u>	<u>Score</u>	<u>Question</u>
3	8.00	What should one do if there is chest pain with sexual activity?
26	7.00	Will heart rate increase with sexual activity?
27	7.00	Will blood pressure change during sexual activity?
25	7.00	Is it normal to breathe at a faster rate during sexual activity?
39	7.00	How frequently can a heart patient have sexual activity?
15	7.00	How much energy does sexual activity demand from the heart?
21	6.50	What are warning signs to stop sexual activity?
24	6.50	Is shortness of breath to be expected with sexual activity?
16	6.50	Should nitroglycerin be used before or during sexual activity?
30	6.00	Can depression affect sexual activity?

TEN LEAST IMPORTANT ITEMS PERCEIVED
BY THE "BLACK" GROUP

<u>Q-Sort Item #</u>	<u>Score</u>	<u>Question</u>
11	1.50	When is masturbation considered to be a safe form of sexual activity?
23	2.50	How does the temperature of the room affect sexual activity?
6	2.50	Will the male patient's ability to have an erection be altered?
38	3.00	What additional risks do oral contraceptives present for female cardiac patients?
1	3.00	Are there recommended positions for sexual intercourse?
7	4.00	Will there be a change in the capacity for orgasm?
9	4.00	What are the advantages of resting after meals prior to sexual interaction?
19	4.00	Will there be any changes in sexual desire?
37	4.00	How can the spouse help the patient return to former patterns of sexual activity?
40	4.00	Do the surroundings affect sexual activity risks?

TEN MOST IMPORTANT ITEMS PERCEIVED
BY THE "CAUCASIAN" GROUP

<u>Q-Sort Item #</u>	<u>Score</u>	<u>Question</u>
21	6.38	What are warning signs to stop sexual activity?
35	6.33	Are there any restrictions upon sexual activity?
4	6.33	What are the chances of having a heart attack with sexual activity?
2	6.27	What are the chances for chest pain with sexual activity?
14	6.27	When after discharge can sexual intercourse be resumed?
31	6.05	Is foreplay in sexual activity safe on the heart?
39	6.00	How frequently can a heart patient have sexual activity?
3	6.00	What should one do if there is chest pain with sexual activity?
20	5.94	How will the spouse feel about resuming sexual activity at home?
36	5.94	Can one return to prehospitization patterns of lovemaking?

TEN LEAST IMPORTANT ITEMS PERCEIVED
BY THE "CAUCASIAN" GROUP

<u>Q-Sort Item #</u>	<u>Score</u>	<u>Question</u>
10	2.77	Are there additional risks involved with extramarital affairs?
38	3.00	What additional risks do oral contraceptives present for female cardiac patients?
11	3.11	When is masturbation considered to be a safe form of sexual activity?
12	3.66	Is oral sexual activity safe for a heart patient?
13	3.77	Is anal sexual activity safe for a heart patient?
17	3.77	Does alcohol intake affect sexual activity risks?
23	3.88	How does the temperature of the room affect sexual activity?
18	4.16	Does smoking affect sexual activity risks?
6	4.22	Will the male patient's ability to have an erection be altered?
8	4.22	Is there a certain recommended time of day that is best for sexual activity?

TEN MOST IMPORTANT ITEMS PERCEIVED

BY THE "HOSPITAL A" GROUP

<u>Q-Sort Item #</u>	<u>Score</u>	<u>Question</u>
3	7.33	What should one do if there is chest pain with sexual activity?
26	6.66	Will heart rate increase with sexual activity?
2	6.66	What are the chances for chest pain with sexual activity?
27	6.50	Will blood pressure change during sexual activity?
15	6.33	How much energy does sexual activity demand from the heart?
16	6.16	Should nitroglycerin be used before or during sexual activity?
29	6.16	Are there any past studies of sexual activity ability in cardiac patients?
35	6.16	Are there any restrictions upon sexual activity?
28	6.00	Are palpitations of the heart normal during sexual activity?
31	5.83	Is foreplay in sexual activity safe on the heart?

TEN LEAST IMPORTANT ITEMS PERCEIVED
BY THE "HOSPITAL A" GROUP

<u>Q-Sort Item #</u>	<u>Score</u>	<u>Question</u>
11	1.83	When is masturbation considered to be a safe form of sexual activity?
38	2.50	What additional risks do oral contraceptives present for female cardiac patients?
1	3.00	Are there recommended positions for sexual intercourse?
23	3.00	How does the temperature of the room affect sexual activity?
6	3.50	Will the male patient's ability to have an erection be altered?
8	3.50	Is there a certain recommended time of day that is best for sexual activity?
10	3.83	Are there additional risks involved with extramarital affairs?
19	3.83	Will there be any changes in sexual desire?
7	4.16	Will there be a change in the capacity for orgasm?
18	4.16	Does smoking affect sexual activity risks?

TEN MOST IMPORTANT ITEMS PERCEIVED
BY THE "HOSPITAL B" GROUP

<u>Q-Sort Item #</u>	<u>Score</u>	<u>Question</u>
21	6.70	What are warning signs to stop sexual activity?
4	6.57	What are the chances of having a heart attack with sexual activity?
14	6.50	When after discharge can sexual intercourse be resumed?
39	6.35	How frequently can a heart patient have sexual activity?
20	6.35	How will the spouse feel about resuming sexual activity at home?
35	6.14	Are there any restrictions upon sexual activity?
5	6.14	What are the chances for death with sexual activity?
36	6.07	Can one return to prehospitization patterns of lovemaking?
31	6.00	Is foreplay in sexual activity safe on the heart?
2	6.00	What are the chances for chest pain with sexual activity?

TEN LEAST IMPORTANT ITEMS PERCEIVED
BY THE "HOSPITAL B" GROUP

<u>Q-Sort Item #</u>	<u>Score</u>	<u>Question</u>
10	2.78	Are there additional risks involved with extramarital affairs?
38	3.21	What additional risks do oral contraceptives present for female cardiac patients?
13	3.35	Is anal sexual activity safe for a heart patient?
12	3.35	Is oral sexual activity safe for a heart patient?
11	3.42	When is masturbation considered to be a safe form of sexual activity?
17	3.64	Does alcohol intake affect sexual activity risks?
40	4.00	Do the surroundings affect sexual activity risks?
23	4.07	How does the temperature of the room affect sexual activity?
18	4.28	Does smoking affect sexual activity risks?
6	4.28	Will the male patient's ability to have an erection be altered?

TEN MOST IMPORTANT ITEMS PERCEIVED
BY "INCOME LESS THAN \$19,500" GROUP

<u>Q-Sort Item #</u>	<u>Score</u>	<u>Question</u>
15	6.16	How much energy does sexual activity demand from the heart?
14	6.16	When after discharge can sexual intercourse be resumed?
3	6.16	What should one do if there is chest pain with sexual activity?
21	6.08	What are warning signs to stop sexual activity?
26	6.08	Will heart rate increase with sexual activity?
35	6.08	Are there any restrictions upon sexual activity?
39	6.00	How frequently can a heart patient have sexual activity?
31	5.91	Is foreplay in sexual activity safe on the heart?
16	5.91	Should nitroglycerin be used before or during sexual activity?
2	5.91	What are the chances for chest pain with sexual activity?

TEN LEAST IMPORTANT ITEMS PERCEIVED
BY "INCOME LESS THAN \$19,500" GROUP

<u>Q-Sort Item #</u>	<u>Score</u>	<u>Question</u>
11	2.58	When is masturbation considered to be a safe form of sexual activity?
10	3.16	Are there additional risks involved with extramarital affairs?
38	3.16	What additional risks do oral contraceptives present for female cardiac patients?
13	3.66	Is anal sexual activity safe for a heart patient?
12	3.75	Is oral sexual activity safe for a heart patient?
6	3.75	Will the male patient's ability to have an erection be altered?
1	3.83	Are there recommended positions for sexual intercourse?
23	3.91	How does the temperature of the room affect sexual activity?
8	3.91	Is there a certain recommended time of day that is best for sexual activity?
17	4.00	Does alcohol intake affect sexual activity risks?

TEN MOST IMPORTANT ITEMS PERCEIVED
BY "INCOME MORE THAN \$19,500" GROUP

<u>Q-Sort Item #</u>	<u>Score</u>	<u>Question</u>
4	7.00	What are the chances of having a heart attack with sexual activity?
21	6.87	What are warning signs to stop sexual activity?
5	6.75	What are the chances for death with sexual activity?
2	6.62	What are the chances for chest pain with sexual activity?
20	6.50	How will the spouse feel about resuming sexual activity at home?
14	6.37	When after discharge can sexual intercourse be resumed?
39	6.25	How frequently can a heart patient have sexual activity?
3	6.25	What should one do if there is chest pain with sexual activity?
35	6.25	Are there any restrictions upon sexual activity?
36	6.12	Can one return to prehospitalization patterns of lovemaking?

TEN LEAST IMPORTANT ITEMS PERCEIVED
BY "INCOME MORE THAN \$19,500" GROUP

<u>Q-Sort Item #</u>	<u>Score</u>	<u>Question</u>
38	2.75	What additional risks do oral contraceptives present for female cardiac patients?
10	3.00	Are there additional risks involved with extramarital affairs?
11	3.50	When is masturbation considered to be a safe form of sexual activity?
23	3.50	How does the temperature of the room affect sexual activity?
12	3.62	Is oral sexual activity safe for a heart patient?
17	3.75	Does alcohol intake affect sexual activity risks?
13	3.87	Is anal sexual activity safe for a heart patient?
25	3.87	Is it normal to breathe at a faster rate during sexual activity?
34	3.87	Is sleeplessness normal after sexual activity?
18	4.12	Does smoking affect sexual activity risks?

TEN MOST IMPORTANT ITEMS PERCEIVED
BY "MARRIED UNDER 20 YEARS" GROUP

<u>Q-Sort Item #</u>	<u>Score</u>	<u>Question</u>
35	6.80	Are there any restrictions upon sexual activity?
3	6.70	What should one do if there is chest pain with sexual activity?
14	6.50	When after discharge can sexual intercourse be resumed?
2	6.50	What are the chances for chest pain with sexual activity?
21	6.40	What are warning signs to stop sexual activity?
39	6.30	How frequently can a heart patient have sexual activity?
15	6.00	How much energy does sexual activity demand from the heart?
36	6.00	Can one return to prehospitization patterns of lovemaking?
4	6.00	What are the chances of having a heart attack with sexual activity?
31	5.90	Is foreplay in sexual activity safe on the heart?

TEN LEAST IMPORTANT ITEMS PERCEIVED
BY "MARRIED UNDER 20 YEARS" GROUP

<u>Q-Sort Item #</u>	<u>Score</u>	<u>Question</u>
38	2.40	What additional risks do oral contraceptives present for female cardiac patients?
11	2.90	When is masturbation considered to be a safe form of sexual activity?
23	3.20	How does the temperature of the room affect sexual activity?
13	3.50	Is anal sexual activity safe for a heart patient?
10	3.70	Are there additional risks involved with extramarital affairs?
1	3.80	Are there recommended positions for sexual intercourse?
32	4.10	Is fatigue normal with sexual activity?
6	4.20	Will the male patient's ability to have an erection be altered?
17	4.20	Does alcohol intake affect sexual activity risks?
8	4.20	Is there a certain recommended time of day that is best for sexual activity?

TEN MOST IMPORTANT ITEMS PERCEIVED
BY "MARRIED OVER 20 YEARS" GROUP

<u>Q-Sort Item #</u>	<u>Score</u>	<u>Question</u>
21	6.40	What are warning signs to stop sexual activity?
4	6.30	What are the chances of having a heart attack with sexual activity?
26	6.10	Will heart rate increase with sexual activity?
5	6.10	What are the chances for death with sexual activity?
31	6.00	Is foreplay in sexual activity safe on the heart?
14	6.00	When after discharge can sexual intercourse be resumed?
20	5.90	How will the spouse feel about resuming sexual activity at home?
39	5.90	How frequently can a heart patient have sexual activity?
2	5.90	What are the chances for chest pain with sexual activity?
28	5.70	Are palpitations of the heart normal during sexual activity?

TEN LEAST IMPORTANT ITEMS PERCEIVED
BY "MARRIED OVER 20 YEARS" GROUP

<u>Q-Sort Item #</u>	<u>Score</u>	<u>Question</u>
10	2.50	Are there additional risks involved with extramarital affairs?
12	2.80	Is oral sexual activity safe for a heart patient?
11	3.00	When is masturbation considered to be a safe form of sexual activity?
17	3.60	Does alcohol intake affect sexual activity risks?
38	3.60	What additional risks do oral contraceptives present for female cardiac patients?
18	3.90	Does smoking affect sexual activity risks?
6	3.90	Will the male patient's ability to have an erection be altered?
13	4.00	Is anal sexual activity safe for a heart patient?
23	4.30	How does the temperature of the room affect sexual activity?
8	4.30	Is there a certain recommended time of day that is best for sexual activity?

TEN MOST IMPORTANT ITEMS PERCEIVED
BY "UNDER 49 YEARS OLD" GROUP

<u>Q-Sort Item #</u>	<u>Score</u>	<u>Question</u>
39	6.45	How frequently can a heart patient have sexual activity?
35	6.45	Are there any restrictions upon sexual activity?
14	6.36	When after discharge can sexual intercourse be resumed?
21	6.21	What are warning signs to stop sexual activity?
26	6.09	Will heart rate increase with sexual activity?
36	6.09	Can one return to prehospitization patterns of lovemaking?
2	6.09	What are the chances for chest pain with sexual activity?
31	5.81	Is foreplay in sexual activity safe on the heart?
20	5.81	How will the spouse feel about resuming sexual activity at home?
3	5.72	What should one do if there is chest pain with sexual activity?

TEN LEAST IMPORTANT ITEMS PERCEIVED
BY "UNDER 49 YEARS OLD" GROUP

<u>Q-Sort Item #</u>	<u>Score</u>	<u>Question</u>
38	2.45	What additional risks do oral contraceptives present for female cardiac patients?
11	3.09	When is masturbation considered to be a safe form of sexual activity?
10	3.54	Are there additional risks involved with extramarital affairs?
23	3.54	How does the temperature of the room affect sexual activity?
17	3.81	Does alcohol intake affect sexual activity risks?
6	3.90	Will the male patient's ability to have an erection be altered?
40	4.09	Do the surroundings affect sexual activity risks?
18	4.18	Does smoking affect sexual activity risks?
34	4.27	Is sleeplessness normal after sexual activity?
29	4.45	Are there any past studies of sexual activity ability in cardiac patients?

TEN MOST IMPORTANT ITEMS PERCEIVED

BY "OVER 49 YEARS OLD" GROUP

<u>Q-Sort Item #</u>	<u>Score</u>	<u>Question</u>
5	7.11	What are the chances for death with sexual activity?
4	7.00	What are the chances of having a heart attack with sexual activity?
3	6.77	What should one do if there is chest pain with sexual activity?
21	6.55	What are warning signs to stop sexual activity?
2	6.33	What are the chances for chest pain with sexual activity?
15	6.11	How much energy does sexual activity demand from the heart?
37	6.11	How can the spouse help the patient return to former patterns of sexual activity?
28	6.11	Are palpitations of the heart normal during sexual activity?
31	6.11	Is foreplay in sexual activity safe on the heart?
14	6.11	When after discharge can sexual intercourse be resumed?

TEN LEAST IMPORTANT ITEMS PERCEIVED

BY "OVER 49 YEARS OLD" GROUP

<u>Q-Sort Item #</u>	<u>Score</u>	<u>Question</u>
12	2.33	Is oral sexual activity safe for a heart patient?
13	2.55	Is anal sexual activity safe for a heart patient?
10	2.55	Are there additional risks involved with extramarital affairs?
11	2.77	When is masturbation considered to be a safe form of sexual activity?
1	2.88	Are there recommended positions for sexual activity?
8	3.55	Is there a certain recommended time of day that is best for sexual activity?
38	3.60	What additional risks do oral contraceptives present for female cardiac patients?
17	4.00	Does alcohol intake affect sexual activity risks?
23	4.00	How does the temperature of the room affect sexual activity?
6	4.22	Will the male patient's ability to have an erection be altered?

BIBLIOGRAPHY

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Articles

- Abramov, Leon A. 1976. Sexual life and sexual frigidity among women developing acute myocardial infarction. Psychosomatic Medicine. 38 (6):419-425.
- Adsett, Alex C., and Bruhn, John G. 1968. Short-term group psychotherapy for post-myocardial infarction patients and their wives. The Canadian Medical Association Journal. 99 (12):577-584.
- Bloch, Antoine; Maeder, Jean Pierre; and Haissly, Jean-Claude. 1975. Sexual problems after myocardial infarction. American Heart Journal. 90 (9):536-537.
- Boisvert, Cecile. 1976. Convalescence following coronary surgery: a group experience. Canadian Nurse. (November):26-27.
- Borgman, Mary Frances. 1975. Coronary rehabilitation--a comprehensive design. International Journal of Nursing Statistics. 12:13-21.
- Brambilla, Mary A. 1968. An investigation of patients' questions about heart surgery: implications for nursing. American Nurses Association Clinical Sessions, pp. 217-221.
- _____. 1969. A teaching plan for cardiac surgical patients. Cardiovascular Nursing. 5 (1):1-4.
- Cantor, Nathaniel. 1956. Dynamics of learning, p. 185. New York: Henry Steu, Inc., cited in Anne Hahn Powell and Elizabeth Hahn Winslow, 1973. The cardiac clinical nurse specialist. Nursing Clinics of North America. 8 (4):723-733.
- Cohen, Barry D.; Wallston, Barbara Strudler; and Wallston, Ken A. 1976. Sex counseling in cardiac rehabilitation. Archives of Physical Medicine and Rehabilitation. 57 (October):473-474.

- Daly, Michael Joseph. 1968. Sexual attitudes in menopausal and post-menopausal women. Medical Aspects of Human Sexuality. (May):48-53.
- Douglas, John D., and Wilkes, T. David. 1975. Reconditioning cardiac patients. American Family Physician. 11 (1):125-129.
- Dresen, Sheila. 1975. The sexually active middle adult. American Journal of Nursing. 75 (6):1001-5.
- Eliot, Robert D., and Miles, Richard. 1973. What to tell the cardiac patient about sexual intercourse. Consultant. (September):23-24.
- _____. 1975. Advising the cardiac patient about sexual intercourse. Medical Aspects of Human Sexuality. (June):49-50.
- Fischer, H. Keith. 1977. Management of emotional factors in coronary disease. Psychosomatics. (October):10-12.
- Fishbein, Morris. 1970. Sexual activity after coronary attack. Medical World News. (July):40.
- Glover, Benjamin H. 1975. Sex in the aging. Postgraduate Medicine. 57 (6):165-169.
- Goldfarb, Alvin F. 1970. Sex and the menopause. Medical Aspects of Human Sexuality. (September):67-90.
- Green, Andrew W. 1975. Sexual activity and the postmyocardial infarction patient. American Heart Journal. 89 (2):246-252.
- Griffith, George C. 1973. Sexuality and the cardiac patient. Heart and Lung. 2 (1):70-73.
- Hellerstein, Herman K., and Ford, Amasa B. 1957. Rehabilitation of the cardiac patient. Journal of the American Medical Association. 164 (3):225-231.
- Hellerstein, Herman K., and Friedman, Ernest. 1969. Sexual activity and the post coronary patient. Medical Aspects of Human Sexuality. (March):70-96.

- Jacobson, Linbania. 1974. Illness and human sexuality. Nursing Outlook. 22 (1):50-53.
- Johnson, Charles D. 1976. Cardiovascular and physiological aspects of sex. Boletin de la Asociacion Medica de Puerto Rico. 68 (6):133-136.
- Kavanagh, T., and Shephard, P. J. 1977. Sexual activity after myocardial infarction. Canadian Medical Association Journal. 116:1250-1253.
- Kent, Saul. 1975. When to resume sexual activity after myocardial infarction. Geriatrics. (August):152-153.
- Koller, Reuben; Kennedy, J. Ward; Butler, Julius C.; and Wagner, Nathaniel N. 1972. Counseling the coronary patient on sexual activity. Postgraduate Medicine. (April):133-136.
- Kratzer, Joan B. 1977. What does your patient need to know? Nursing 77. (December):83-84.
- Krizinofski, Maria T. 1973. Human sexuality and nursing practice. Nursing Clinics of North America. 8 (4):673-678.
- Leighton, Audrey Olson. 1976. 10 steps to better patient teaching. R.N. (October):76-79.
- Malo-Juvera, Dolores. 1975. Sexual therapy and nursing--do they mix? R.N. (March):33-34.
- Massie, Edward. 1969. Sudden death during coitus--fact or fiction? Medical Aspects of Human Sexuality. (June):22-26.
- Mims, Fern H., and Swenson, Melinda. 1978. A model to promote sexual health care. Nursing Outlook. (February):121-125.
- Moore, Karen; Folk-Lighty, Marie; and Nolan, Mary Jane. 1977. The joy of sex after a heart attack. Nursing 77. (June):53-55.

- Mulcahy, Risteard; Hickey, Noel; and Coghlan, Maide. 1972. Rehabilitation of patients with coronary heart disease. Geriatrics. (March):120-129.
- Munro, Lyn Kobosa. 1977. Sexuality in the aging woman. Health and Social Works. 2 (4):71-88.
- Puksta, Nancy Sallese. 1977. All about sex . . . after a coronary. American Journal of Nursing. (April): 602-605.
- Powell, Anne Hahn, and Winslow, Elizabeth Hahn. 1973. The cardiac clinical nurse specialist. Nursing Clinics of North America. 8 (4):723-733.
- Scalzi, Cynthia, and Dracup, Kathy. 1978. Sexual counseling of coronary patients. Heart and Lung. 7 (5):840-845.
- Semmier, Caryl, and Semmier, Maynard. 1974. Counseling the coronary patient. American Journal of Occupational Therapy. 28 (10):609-614.
- Smith, C. A. 1972. Body image changes after myocardial infarction. Nursing Clinics of North America. 7 (4):663-668.
- Soloff, Louis A. 1977. Sexual activity in the heart patient. Psychosomatics. (October):23-28.
- Stein, Richard A. 1976. Resuming sexual relations after myocardial infarction. Medical Aspects of Human Sexuality. (June):159-160.
- Sutterley, Doris Cook and Donnelly, Gloria Ferraro. 1973. Perspectives in human development, p. 128. Philadelphia: J. B. Lippincott Co. Cited in Krizinofski. 1973. Human sexuality and nursing practice. Nursing Clinics of North America.
- Tuttle, William B.; Cook, W. Leigh; and Fitch, Edna. 1964. Sexual behavior in post-myocardial infarction patients. American Journal of Cardiology. (January):140.

- Udry, J. Richard. 1968. Sex and family life. Medical Aspects of Human Sexuality. (November):66-82.
- VanBree, Nancee S. 1975. Sexuality, nursing practice, and the person with cardiac disease. Nursing Forum. 14 (4):397-411.
- Wagner, N. 1974. Some sexual aspects of the rehabilitation of cardiac patients. In Psychological Approach to the Rehabilitation of Coronary Patients, pp. 118-119. Edited by U. Stocksmeier. Berlin: Springer, Publisher.
- Watts, Rosalyn Jones. 1976. Sexuality and the middle-aged cardiac patient. Nursing Clinics of North America. 11 (2):349-359.
- Whiskin, Frederick E. 1970. The geriatric sex offender. Medical Aspects of Human Sexuality. (April):125-129.
- Zohman, Lenore R. 1973. Cardiac rehabilitation: its role in evaluation and management of the patient with coronary heart disease. American Heart Journal. 85 (5):706-710.

Books

- Andreoli, Kathleen G.; Fowkes, Virginia Hunn; Zipes, Douglas P.; and Wallace, Andrew G. 1975. Comprehensive cardiac care. St. Louis: C.V. Mosby Co.
- Abdellah, Faye G., and Levine, Eugene. 1965. Better patient care through nursing research. New York: Macmillan Publishing Co.
- Bell, R. R. 1971. Marriage and family interaction. Homewood, Illinois: Dorsey Press. In Human Sexuality. Cited by James McCary, 1973. New York: D. Van Nostrand Co.
- Broderick, Carlfred B., and Bernard, Jessie. 1969. The individual, sex, and society. Baltimore: John Hopkins Press.

- Buhler, Charlotte. 1962. Values in psychotherapy. New York: Free Press of Glencoe.
- Burnside, Irene Mortenson, ed. 1975. Sexuality and aging. Los Angeles: University of Southern California Press.
- Butler, Robert N., and Lewis, Myrna I. 1977. Love and sex after sixty. San Francisco: Perennial Library.
- Calderone, Mary S., ed. 1971. S.I.E.C.U.S. Conference on religion and sexuality. New York: Associated Press.
- Hojnacki, Linda H. 1975. Postoperative cardiac rehabilitation. Edited by Ouida M. King. St. Louis: C. V. Mosby Co.
- Hunt, Jo Carroll. 1975. Patient education. In Care of the Cardiac Surgical Patient, ch. 18. Edited by Ouida M. King. St. Louis: C.V. Mosby Co.
- Hurst, J. Willis. 1974. The heart, 3rd ed. St. Louis: McGraw-Hill Co.
- Kaplan, Helen Singer. 1974. The new sex therapy. New York: Brunner/Mazel, Inc.
- Kinsey, Alfred C.; Pomeroy, Wardell, B.; Martin, Clyde E.; and Gebhard, Paul H. 1973. Sexual behavior in the human female. New York: Pocket Books.
- Levinson, Daniel J. 1978. Seasons of a man's life. New York: Random Books.
- Masters, William, and Johnson, Virginia. 1966. Human sexual response, 1st ed. Boston: Little, Brown, and Co.
- _____. 1970. Human sexual inadequacy. Boston: Little, Brown, and Co.
- _____. 1974. The pleasure bond. New York: Bantam Books.

- McCary, James Leslie. 1973. Human sexuality. New York: D. Van Nostrand Co.
- Melton, Alfred W., Jr. 1969. Human sexual response. The Individual, Sex, and Society, ch. 13. Edited by Carlfred B. Broderick and Jessie Bernard. Baltimore: John Hopkins Press.
- Nemec, E. D. Rhodes. 1974. Blood pressure and heart rate responses during sexual activity. Unpublished Master's thesis. University of Washington, Seattle, Washington. In "All about sex . . . after a coronary," AJN, (April):602-5. Cited by Nancy Sallese Puksta, 1977.
- Neugarten, Bernice L., ed. 1968. Middle age and aging. Chicago: University of Chicago Press.
- Neugarten, Bernice; Wood, Vivian; Kraines, Ruth J.; and Loomes, Barbara. 1968. Women's attitudes toward the Menopause. In Middle Age and Aging, ch. 21. Edited by Bernice Neugarten. Chicago: University of Chicago Press.
- Rainwater, Lee. 1969. Sex in the culture of poverty. In The Individual, Sex, and Society, ch. 9. Edited by Carlfred B. Broderick and Jessie Bernard. Baltimore: John Hopkins Press.
- Roscoe, John T. 1975. Fundamental research statistics for the behavior sciences. Dallas: Holt, Rinehart, and Winston.
- Scheingold, Lee D., and Wagner, Nathaniel. 1974. Sound, sex and the aging heart. New York: Human Sciences Press.
- Shope, David P. 1975. Interpersonal sexuality. Philadelphia: W. B. Saunders Co.
- Stryker, Ruth Perin. 1972. Rehabilitation aspects of acute and chronic nursing care. Philadelphia: W. B. Saunders Co.
- Treece, Eleanor Walters, and Treece, James William, Jr. 1977. Elements of research in nursing. St. Louis: C. V. Mosby Co.

- Ueno, M. 1963. The so-called coital death. Jap. J. Leg. Med. 17:535. In Sound, sex and the aging heart. Cited by Lee D. Scheingold and Nathaniel Wagner, 1974. New York: Human Sciences Press.
- Unsain, Ida Consuelo Arellano. 1976. Sex counseling post myocardial infarction. Master's thesis, Denton, Texas, Texas Woman's University.
- U.S. Public Health Service. 1964. Heart disease in adults, U.S. 1960-62, Publication 1,000, ser. 11, No. 6, September. Cited in J. Willis Hurst. 1974. The Heart, p. 6041. St. Louis: McGraw-Hill Co.
- Wiener, Daniel N. 1969. Sexual problems in clinical experience. In The Individual, Sex, and Society, ch. 17. Edited by Carlfred B. Broderick and Jessie Bernard. Baltimore: John Hopkins Press.
- World Health Organization. 1970. Vital statistics and causes of death. World Health Statistics Annual 1967. Vol. 1. Cited in J. Willis Hurst, 1974. The Heart, p. 988. St. Louis: McGraw-Hill Co.
- Zehv, W. 1966. How men and women differ in sex. In Human Sexuality. Edited by James Leslie McCary, 1973. New York: D. Van Nostrand Co.