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THE MARITAL DYADS PERCEPTION OF THE IMPACT OF A MASTECTOMY ON FAMILY FUNCTIONING EIGHT TO SIXTEEN WEEKS POST-SURGERY

By

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ABSTRACT

THE MARITAL DYADS PERCEPTION OF THE IMPACT OF A MASTECTOMY ON FAMILY FUNCTIONING EIGHT TO SIXTEEN WEEKS POST-SURGERY

By

Patricia Kilroy Bednarz

Relatively little is known about the internal relationships of the marital dyad facing the crisis of breast cancer. The purpose of this study was to investigate the marital dyad's perception of the impact of a mastectomy on family functioning eight to sixteen weeks post-surgery. A four section questionnaire was mailed to 20 marital dyads in whom the woman experienced a mastectomy eight to sixteen weeks prior to data collection. Two sections of the questionnaire were an identical 70 item Likert scale measuring five components of family functioning: Adaptation, Partnership, Growth, Affection and Resolve (APGAR). The husband and wife each completed one of these sections. The third section of the questionnaire was a Health Perception Scale which the wife completed. The fourth section of the questionnaire gathered descriptive information including sociodemographic data, family developmental stage, and use of adjuvant therapy. In order to measure the impact of a

mastectomy on family functioning the differences in perception between husbands and wives were determined. The results indicated there were no significant differences between husbands and wives in perception of Adaptation, Partnership, Growth, Affection, or Resolve. In addition, no significant relationship was found between the woman's perception of her health and the differences in perception of APGAR. There was not a significant relationship found between family developmental stage or use of adjuvant therapy and differences in perception of APGAR. The APGAR components were found to have marked internal consistency among the items for each dimension.

To my husband, Ralph, and

our forthcoming child

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CHAPTER I

THE PROBLEM

Introduction

Breast cancer comprises 27 percent of all cancers in women and is the leading cancer site in white and black females. The data gathered from 1973 to 1977 in the Breast Cancer Digest, 1979, revealed breast cancer occurs in about 85 white women out of every 100,000 each year and about 70 black women per 100,000 each year. At the present rate, one out of every four women will develop breast cancer sometime in her life. Among whites 65 percent of the women survive breast cancer. For all white breast cancer patients from 1960 to 1972, the medium survival from time of diagnosis was six years and seven months, and for blacks, three years and eight months. The incidence of breast cancer increases rapidly as a woman enters her forties, levels off between the ages of 45 and 55, and then continues to rise at a more gradual rate (Breast Cancer Digest, 1979). With the current and forthcoming techniques in detecting and treating breast cancer the survival rate is likely to increase in the future.

The woman who does survive breast cancer is faced with the loss of the breast, the possible loss of longevity,

loss of body image, and perhaps the loss of interpersonal relationships that will change after the diagnosis of cancer is made. Marital, family, work, and social roles may need to be adjusted. The fears and concerns about one's health that occur as a result of the breast cancer diagnosis also need to be dealt with. The woman who survives for less time than the medium survival rate will need to prepare herself and her family for death.

Although the psychosocial implications of breast cancer are numerous, relatively little research has been completed on the internal roles and functions of the family facing the crisis of breast cancer of the wife/mother. The research on quality of survival has been concerned primarily with persistent physical symptoms, return to work and psychological distress. Asken (1975) indicated in a literature review on the psychoemotional aspects of a mastectomy that the woman feels a threat of death, sense of mutilization, loss of femininity, change in life-style, and inability to adapt to her previous roles. In an effort to evaluate a post-mastectomy rehabilitation program, Winick and Robbins (1977) issued a three page questionnaire three months after discharge. The study revealed that 13 percent (52 of 406 patients) suffered emotional stress (stress was reported in the context of emotional ups and downs), 84 percent (661 of 790 patients) resumed normal physical activity, and the majority of women had normal range of motion in the affected arm.

Schottenfeld and Robbins (1970) studied the quality of survival among 826 patients who have had a radical mastectomy. The researchers found 84 percent of the patients at five years were able to return to their daily activities. The study did not qualify the patient and family adjustment with regard to their quality of life other than employment/household activities. Morris, Greer, and White (1977) completed a two-year follow-up on both mastectomy patients and patients with benign breast disease. Psychological stress was reported by 46 percent of the mastectomy patients at three months but at one year 70 percent of these patients indicated they were no longer stressed. (Stress was measured in relation to loss/disfigurement, diagnosis, and both diagnosis and loss.) Cancer patients at two years were found to have a significantly higher level of depression (22 percent).

Craig, Comstock, and Geiser (1974) studied the quality of survival in breast cancer patients compared to a control group of noncancer patients. It appeared from this study the only significant effect of breast cancer was a slight increase in disability and an increase in death rate. Abeloff and Derogatis (1977) discovered that 34 patients with metastatic breast cancer, compared to 73 patients with other types of cancer were higher on a positive symptom distress index which measures the intensity of psychological distress. Woods (1978) investigated the general quality of survival for post-mastectomy patients.

The study found that women did not feel prepared for their post-operative experiences, continued to have a number of physical complications, and women having an increased number of physical symptoms were more likely to have a higher number of symptoms of depression.

Other studies completed on breast cancer have focused on delay in seeking treatment (Fisher, DeCrosse, & Kaplan, 1964; Gold, 1964), possible psychological parameters that may be indicative of women prone to breast cancer (Surawiz, 1977; Greer & Morris, 1975) and women's beliefs about breast cancer (Stillman, 1977; Knopf, 1976).

Breast cancer is a chronic disease and requires the adaptation skills necessary for a chronic disease. In particular, breast cancer may or may not involve surgery, relapses, remissions, and ongoing chemotherapy. These variables of breast cancer management may necessitate family adaptation by the spouse in the nurturing of family members, social functions, use of community agencies and health conditions and practices.

In summary, the literature does indicate problems do occur for the woman who has been diagnosed with breast cancer. Psychological distress, fear of disfigurement, physical complications, stress secondary to diagnosis, and feelings of being unprepared for what occurs post-surgery have been reported in the literature. What has not been reported in the literature is the woman's perception of how her family is adapting or how the family is actually adapting

to the diagnosis of breast cancer. In addition, the family's perception of how the wife/mother is coping has not been reported. As the family is one of the basic support systems available to the woman facing breast cancer understanding of those particular dimensions of family life are necessary for health providers to understand. Counseling and education both prior and subsequent to breast surgery may be necessary for the entire family.

Purpose of This Study

The lack of knowledge regarding breast cancer and the resulting implications on family functioning have provided the impetus for this research. The purpose of this study is to determine the impact of a mastectomy on the woman and her family facing the crisis of breast cancer. In particular, the relationship between the marital dyad will be examined to determine the individual perceptions of family functioning. Nursing is in a unique position to offer support and guidance to these families undergoing this crisis. A broadened knowledge base regarding the impact of breast cancer on the family can enhance nursing care in helping families cope with this crisis. Specifically, the problem statement is: What is the marital dyad's perception of the impact of a mastectomy on family functioning eight to sixteen weeks post-surgery?

Hypotheses

The following hypotheses will be addressed:

1. There is no difference between the individuals within the marital dyad in perception of the impact of a mastectomy on family functioning.

Subhypotheses

1a. There is no difference between the individuals within the marital dyad in perception of the impact of a mastectomy on Adaptation.

1b. There is no difference between the individuals within the marital dyad in perception of the impact of a mastectomy on Partnership.

1c. There is no difference between the individuals within the marital dyad in perception of the impact of a mastectomy on Growth.

1d. There is no difference between the individuals within the marital dyad in perception of the impact of a mastectomy on Affection.

1e. There is no difference between the individuals within the marital dyad in perception of the impact of a mastectomy on Resolve.

2. There is no inter-relationship among the five categories of family functioning.

Subhypotheses

2a. There is no relationship between the discrepancy scores of Adaptation and Partnership.

2b. There is no relationship between the discrepancy scores of Adaptation and Growth.

2c. There is no relationship between the discrepancy scores of Adaptation and Affection.

2d. There is no relationship between the discrepancy scores of Adaptation and Resolve.

2e. There is no relationship between the discrepancy scores of Partnership and Growth.

2f. There is no relationship between the discrepancy scores of Partnership and Affection.

2g. There is no relationship between the discrepancy scores of Partnership and Resolve.

2h. There is no relationship between the discrepancy scores of Growth and Affection.

2i. There is no relationship between the discrepancy scores of Growth and Resolve.

2j. There is no relationship between the discrepancy scores of Affection and Resolve.

Definition of Concepts

Family

Smilkstein (1978) defined the family as a psychosocial group consisting of the patient and one or more persons, children or adults, in which there is a commitment

for members to nurture one another. Anderson and Carter (1978) defined the family from the viewpoint of the person within it. The definition included those individuals with whom he/she interacts and performs functions within the given society. Paolucci, Hall, and Aximin (1977) viewed the family as a set of mutually interdependent organisms; intimate, transacting, and interrelated persons who share some common goals, resources, and a commitment to one another that extends over time. Logan (1978) indicated the family comprises a network of individuals interdependently related to one another through the performance of complementary roles (how families interact with one another).

Clearly, there are numerous definitions of the family. A main characteristic that is a component of each definition is that a relationship exists between two or more individuals. For purposes of this study the family will be defined as the traditional nuclear family consisting of two legally married adults with or without children.

Family Functioning

From a health perspective there are numerous approaches available to study the family. The family has been viewed as a system, an ecosystem and a social network. The developmental, structural-functional, symbolic interaction and psychoanalytic approaches have also been utilized for further understanding of the family (Anderson & Carter, 1978; Logan, 1978). The approach of this research to

examine the family will be to study the family functions in relation to breast cancer.

The definitions of family functioning in the literature appear to be unclear and difficult to operationalize. Smilkstein (1978) defined family functioning as the process of nurturing that promotes emotional and physical growth and maturation of all members. Lidz (1963) indicated the family performs three sets of functions: (1) provides physical care and nurturing of the children and at the same time directs their personality development, (2) furnishes a means to personal fulfillment and stability for the spouse, and (3) takes responsibility for enculturing new members for society. Pless and Satterwhite (1973) offered a less definitive explanation of family functioning. Family functioning was defined by Pless and Satterwhite (1973) as the dynamics of everyday life: the way in which a family, as a unit, operates across many dimensions. Pless and Satterwhite (1973) developed an instrument to assess family functioning which included six major categories: (1) marital satisfaction, (2) frequency of disagreements, (3) happiness, (4) communications, (5) weekends together, and (6) problem solving. Geismar, Lasorte, and Ayres (1962) measured family functioning by means of rating role performance of family members in nine categories: (1) individual behavior and adjustment, (2) family relationships and family unity, (3) care and training of children, (4) social activities, (5) economic practices, (6) household practices, (7) health

condition and practices, (8) relationship to social worker, and (9) use of community resources.

Tapia (1972) developed a model for assessing family functioning based on Feldman and Schery's four main tasks of the nuclear family (to provide security and physical survival, emotional and social functioning, sexual differentiation and training of children, and growth of individual members). The Tapia model consists of five levels of family functioning: (1) chaotic family, (2) intermediate family, (3) normal family with conflicts and problems, (4) family with solutions for problems, and (5) ideal family. Although the model offers criteria on which to evaluate family functioning the concepts have not been operationalized to test the model in a research setting. Several consistent patterns emerge from these definitions of family functioning: child care, nurturance and affection, household and economic activities and social relationships.

Smilkstein (1978) developed an assessment tool for measuring family functioning described as the family APGAR. The family APGAR consists of five components each with individual definitions (Figure 1). Because the family APGAR offers the most general and comprehensive definition of family functioning it is possible to incorporate the components of Pless and Satterwhite, Geismar et al., Lidz et al., and Feldman et al. into the major components of the APGAR (see Figure 2).

Adaptation:	Adaptation is the utilization of intra and extra familial resources for problem solving when family equilibrium is stressed during a crisis.
Partnership:	Partnership is the sharing of decision making and nurturing responsibilities by family members.
Growth:	Growth is the physical and emotional maturation and self-fulfillment that is achieved by family members through mutual support and guidance.
Affection:	Affection is the caring or loving relationship that exists among family members.
Resolve:	Resolve is the commitment to devote time to other members of the family for physical and emotional nurturing. It also usually involves a decision to share wealth and space.

Figure 1. The Family APGAR.

Source: G. Smilkstein, The family APGAR: A proposal for a family function test and its use by physicians. The Journal of Family Practice, 1978, 6(6), 1231-1239.

	Adaptation
Geismar, Lasorte, and Ayres, 1962	Use of community agencies Relationship to social worker Health conditions and practices
	Partnership
Pless and Satterwhite, 1973	Problem solving Respondent-spouse communications Frequency of disagreements
	Growth
Geismar, Lasorte, and Ayres, 1962	Individual behavior and adjustment Care and training of children Social activities
Lidz, 1963	Physical care and nurturing of children Directs personality development Enculturing new members to society
Feldman and Scherz, 1967	Sexual differentiation and training of children Growth of individual members Social functioning
	Affection
Pless and Satterwhite, 1973	Marital satisfaction
Geismar, Lasorte, and Ayres 1962	Family relationships and unity
Lidz, 1963	Personal fulfillment and stability for spouse
Feldman and Scherz, 1967	Emotional functioning

Figure 2. Family Functioning Components

	Resolve
Pless and Satterwhite, 1973	Vacations together Weekends together
Geismar, Lasorte, and Ayres, 1962	Economic practices Household practices

Figure 2. Continued.

Sources: F. L. Feldman & F. H. Scherz, Family social welfare; helping troubled families. New York: Atherton Press, 1967.

L. L. Geismar; M. A. Lasorte; & B. Ayres, Measuring family disorganization, Journal of Marriage and Family Living, 1962, 51-56.

T. Lidz, The family and human adaptation. New York: International Universities Press, 1963.

I. B. Pless & B. B. Satterwhite, A measure of family functioning and its application, Social Science and Medicine, 1963, 1, 613-621.

Figure 2 provides a format to operationalize the definitions of family APGAR. For example, partnership may be measured by asking questions concerned with frequency of disagreements, communication, and decision-making between the marital dyad since the mastectomy. Affection may be measured by determining if problems exist in the dyad's physical relationship. Because this study is concerned with the marital dyad, items related to child care will not be included in the instrument. For purposes of this study, family functioning will be defined as the way each individual of the marital dyad perceives how they relate to one another across the five dimensions of Adaptation, Partnership, Growth, Affection, and Resolve.

Marital Dyad

The marital dyad will be defined as the legally married husband and wife. The population utilized to determine the marital dyad's perception of family functioning will consist of: (1) married women in the Lansing area aged 29-75 who have experienced a mastectomy (simple, modified, or radical) and are within 8-16 weeks post-surgery, and (2) the legal spouse of the woman. Women who have been clinically staged one through four for breast cancer will be included in the study. Terminal patients will be included in this study. No cultural, racial, or socioeconomic restraints will be placed on the population. The study will not include single or widowed women; separated or divorced

couples; or couples living together. In addition, the population will exclude those women who have been diagnosed with other chronic disease (diabetes, renal failure). Individuals with psychosis and mental confusion and illiterate individuals will also be excluded.

Extraneous Variables Affecting Study Outcome

Previous Relationships

There are several extraneous variables that will impose limitations on the study. A variable that may influence results is the relationship between the marital dyad that existed before the mastectomy. Woods (1978) study of women with breast cancer found the quality of the marital relationship preoperatively influenced the marital sexual relationship postoperatively. Morris, Greer, and White (1977) completed a two year follow-up on both mastectomy patients and patients with benign breast disease. Their study found marital adjustment was similar to pre-operative adjustment in 83 percent of the cancer patients and 75 percent of the benign breast disease patients. Thus, it can be assumed the pre-operative relationship will affect the post-operative relationship although it will not be measured in this study.

A second extraneous variable influencing the marital dyad's perception of family functioning is the presence or absence of children, ages of the children, number of children, and the parent's relationship with the children. For this

reason family functioning will only be measured within the perspective of the marital dyad (how the dyad functions as a family). It is speculated that information on the family as a whole will be lost with this limited perspective.

Age and Developmental Level of Family

The developmental level of the family is an extraneous variable influencing the study outcome. Hill (1970) defined family development as encompassing the entire range of family behaviors which are stimulated and constrained by the changing age and sex composition of the nuclear or extended families over the life span. DuVall (1977) supports the developmental approach to study families. For this reason the study has limited the age range to 29-75 years. It is estimated these families will be in the School Age Stage, Teenage Stage, Launching Stage, Middle Age Stage, or Aging Stage of development (DuVall, 1977).

Developmental stages are important to perception of family functioning because particular problems may arise in relation to the developmental stage of the family. For example, the middle aged woman experiencing a change in body image from the mastectomy may be already experiencing the change in body image resulting from the aging process. Sexual problems may result from the two different processes affecting body image. The younger woman may have concern for the care taking of her children. It is important to

note that 50 percent of the women who develop breast cancer are between 45 and 65 years of age.

Time

Time is considered an extraneous variable because the literature has indicated critical points in time for the woman adjusting to a mastectomy. Therefore, the time period in this study has been limited to eight to sixteen weeks post-surgery.

Worden and Weisman (1977) investigated the relationship between mastectomy and post-operative syndrome of depression and lowered self esteem by comparing 40 newly diagnosed breast cancer patients with 50 other women diagnosed with other types of cancer. Their findings indicated that on an average period of six months there were no significant differences between the two groups on measures of self-esteem and depression. Their findings did indicate that peak distress occurred about the time of the second follow-up which would be about eight to ten weeks into the illness.

In an effort to evaluate a post-mastectomy program Winnick and Robbins (1977) issued a three page questionnaire three months after discharge to 1,700 women who have had a mastectomy. A total of 863 women completed and returned the questionnaire. The findings indicated that the majority of women had normal range of motion in the affected arm, 84 percent resumed normal activity and 13 percent suffered

emotional stress. This study indicated the peak occurrence of emotional stress would have occurred prior to the three month interview.

Morris, Greer, and White (1977) conducted interviews prior to the breast biopsy and at 3, 12, and 24 months after surgery to determine social adjustment and degree of depression in both mastectomy patients and patients with benign breast disease. The results of the study indicated psychological stress was reported by 46 percent of the mastectomy patients at three months and at one year 70 percent of these patients indicated they were no longer stressed. One quarter of the respondents failed to adjust at two years.

These studies have indicated the majority of women with a mastectomy experience peak psychological distress prior to the three months and that the distress appears to decrease with time. It is difficult to estimate a point in time when the family experiences peak distress because the studies have not attempted to measure this aspect of quality of survival. The research has not focused on the time period prior to three months, therefore, it is important to determine if this is a difficult time of adjustment for both the woman and her family experiencing the effects for breast cancer. For purposes of gathering an acceptable sample size the fourth month post-mastectomy was also studied.

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Health Perception

The woman's perception of her health is an additional variable that may influence the outcome of her perception of family functioning. There have been no studies completed on the health perception of a woman who has had a mastectomy but it may be an intervening variable that will be assessed in this study.

Adjuvant Treatment

The use of adjuvant treatment, such as, chemotherapy or radiation therapy may influence the dyads perception of family functioning. Meyerwitz, Sparks, and Spears (1979) studied the psychosocial implications of adjuvant chemotherapy for breast carcinoma. The results of the study indicated that every woman participating in the study reported adverse changes in her life resulting from the adjuvant treatment. It was found that 23 percent of the respondents indicated disruption in marital and family relationships, 17 percent reported decreases in sexual activity, and 54 percent reported increased financial burden.

Other Extraneous Variables

Measurement of perception of family functioning may be affected because the instrument will be designed for self-reporting by the participants. Geographic location may also be an extraneous variable affecting the study outcome.

A university is based in the Lansing area which may reflect a highly mobile and educated community.

Assumptions

In this study the research is making the following assumptions:

1. All marital dyads will have some adjustments in family functioning post-mastectomy.
2. Responses of the dyad to the family functioning instrument are real and honest.
3. The respondents will be able to read and understand the instrument.
4. The group selected for study are representative of a population of women who have experienced a mastectomy and their spouses.
5. The questions in the instrument are accurate representatives of family functioning.
6. The time period for collection of data, eight to sixteen weeks, is a time period when peak distress will occur.
7. The marital dyad will not confer when responding to the instrument.
8. The data analysis will be thorough and correct.

Limitations

In this study the research is limited by the following:

1. The study does not measure the quality of the marital relationship prior to the mastectomy.
2. The subjects who agree to participate in the study may be different from those who refuse. Therefore, it is possible that the research findings are not representative of all marital dyads in which the woman has experienced a mastectomy.
3. The study does not include the children in the concept of family functioning.
4. The mailed questionnaire was completed in the home where the dyad had the opportunity to confer with one another.
5. The study is limited with respect to the point in time in which the data was collected. Family dysfunction may occur prior or subsequent to the eight to sixteen weeks post-mastectomy.

Overview of Chapters

This study is presented in six chapters. The introduction, statement of the problem, operational definitions, and the limitations and assumptions are presented in Chapter I. Chapter II describes the conceptual framework of the nursing process in relation to the family facing breast cancer. Pertinent literature in relation to the problem is reviewed in Chapter III. The research design and methodology and rationale for data analysis are described in Chapter IV. Data and the analysis of the results are

presented in Chapter V. The summary of the research findings, conclusions and recommendations, and nursing implications are discussed in Chapter VI.

CHAPTER II

CONCEPTUAL FRAMEWORK

Introduction

In this chapter the relationship between nursing theory and the impact of a mastectomy on family functioning will be discussed. Rogers (1977) theoretical basis of nursing was utilized as the fundamental component of this conceptual framework. The rationale for the use of this particular nursing theorist for the study on the impact of a mastectomy on family functioning will also be explored in this chapter. In addition, nursing implications will be discussed.

Rogers' Theory

Rogers' (1977) theory of nursing provides a method of organizing abstract concepts and demonstrating their relationships. The basic concepts to Rogers' theory are: energy field, pattern and organization, unidirectional life process, space, time dimension, and continuous man-environment interaction. The energy field was defined as the conceptual boundary of man. The energy field is in a continual state of flux and varies in intensity, density,

and extent. The energy field is the fundamental unit of living systems. The field may extend further into the environment and at other times retreat into man's visible core (Rogers, 1977).

Pattern and organization are also basic concepts to Rogers' nursing theory. Pattern and organization were described as taking on greater complexity as life varied (Rogers, 1977). Rogers (1977) indicated that the existence of organization and patterning is a phenomenon and that the nature of life's pattern and organization is in a constant process of evolution. At particular points in man's life, repatterning occurs as a revision of the immediately preceeding pattern. Earlier developmental patterns are replaced by later ones (Rogers, 1977).

The concept of unidirectionality of life is fundamental to Rogers' theory. Rogers (1977) indicated the unidirectionality of life exhibits an invariant one-way trend. Inherent to the concept of unidirectionality of life is the concept of space-time continuum. The space-time concept can be explained in relation to the process of change. Change takes place in space along the time axis (Rogers, 1977). Rogers (1977) stated the relationship between unidirectionality and space-time as follows: "The life process varies irreversibly and unidirectionally along the space-time continuum."

The continuous man-environment interaction is a major concept to Rogers' theory. Rogers (1977) stated that

the relationship between the human field and the environmental field is one of mutual interaction and mutual change. Man and environment were not to be separated but perceived simultaneously. Rogers (1977) indicated that it was the man-environment interaction process which portends the future and not the flexibility of man in adjusting to environmental change.

The abstractness of this theoretical perspective is what enhances its applicability to nursing problems. The major concepts of the theory explore what man is, his relationship to the environment, and the life process itself. These concepts are fundamental to the understanding of how the marital dyad (man) perceives the impact of a mastectomy (environmental exchange) on family functioning. Rogers (1977) clearly believed in the growth process of man throughout the life process in addition to visualizing man as being able to affect change in his future rather than adapting to environmental influences. These beliefs of Rogers have implications for the marital dyad facing the crisis of breast cancer. According to Rogers (1977) the marital dyad has the potential to grow from this experience and plan for the future in coping with the loss of the breast, fear of death, and/or reoccurrence, and changes in the marital relationships. It may be suggested that for the dyad to grow from this exposure their perceptions of how the mastectomy has affected family functioning need to be similar. Rogers' (1977) definitions of man, health, and the nursing

process in relation to the marital dyad coping with the impact of mastectomy will be explored in the following section. These relationships will further substantiate the use of Rogers' theory for this study.

Man

Rogers' (1977) definition of man has several implications for the study of the marital dyad facing breast cancer. Man was defined as a unified whole possessing his own integrity and manifesting characteristics that are more than and different from the sum of his parts. Key ideas related to this concept identified by Rogers (1977) are: (1) Man has the capacity to maintain himself while undergoing change, (2) Man searches for meaning in life and death, (3) Man is sentient, (4) Man seeks to organize his world of his experience and make sense of it, and man is an active participant in the patterning of his field.

Women who experience breast cancer and the process of a mastectomy endure profound psychological change from the fear of death, loss of feminine image, fear of mutation, and fear of reoccurrence (Polivy, 1977; Thomas, 1978; Asken, 1975), and biological change resulting from removal of the breast. Throughout these changes the woman has the remarkable capacity to maintain herself and continues to function. Although the literature indicates problems do occur post-mastectomy for the woman there are also indications that a substantial amount of women are coping well with the

situation (Winick et al., 1977; Mosses, 1979; Jamison et al., 1978). The spouse, similarly, must work through the changes that are occurring as a result of the mastectomy (role change as care giver, change within the sexual relationship and also the change of living with a person who has a chronic illness). Wellisch et al. (1978) indicated the majority of men coped well with the psychosocial stresses which occur when the spouse has experienced a mastectomy.

It has been documented in the literature (Thomas, 1978; Giaquinta, 1977) that both the woman experiencing breast cancer and her family search for the meaning of cancer. There is a need for the family to understand why this has happened to them. The process of searching for the meaning of cancer and the need to make sense of one's experiences support Rogers' concept of man as one who searches for meaning in life and death.

Viewing man as a sentient being (capable of feeling and perceiving) is imperative when studying the dyad experiencing cancer. The loss of a breast, presence of a chronic illness, and threat of death cause feelings of grief, loneliness, anger, and fear (Thomas, 1978; Asken, 1975). These feelings will affect how the dyad perceives the impact of the mastectomy on family functioning. In addition, the differences in perception between the dyad will also affect how they are functioning as a family.

The concept of man as an active participant in the patterning of his field has implications for this study

because it emphasizes the importance of man having the ability to utilize his resources to make decisions in an effort to reach his maximum health potential.

Thus, the dyad coping with the impact of a mastectomy does have the capacity to undergo change, perceive the impact of a mastectomy and search for the meaning in its unique way, and remain an active participant in making health care decisions. Repatterning of the human field can be expected to take place after the crisis of a mastectomy has occurred on life's unidirectional line (see Figure 3). The dyad may need to have similar perceptions in order to reach their maximum health potential through repatterning of the human field.

Health

The health goal implied by determining the marital dyad's perception of family functioning is adequately described by Rogers. Nursing practice promotes symphonic interaction between man and environment, to strengthen the coherence and integrity of the human field and to direct and redirect patterning of the human and environmental fields for the realization of maximum health potential (Rogers, 1977). The realization of the marital dyad's maximum health potential is the nursing goal for this study. The maximum health potential will be unique to each dyad as they cope with the mastectomy.

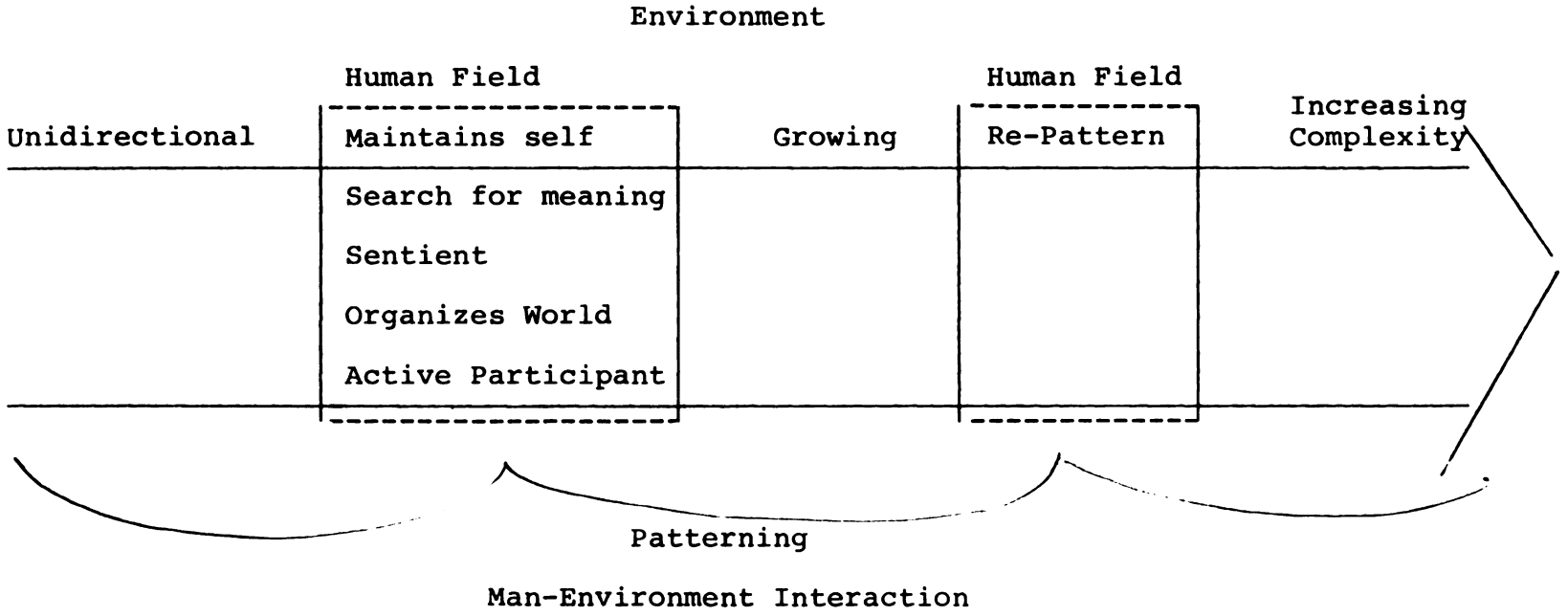

Figure 3. Rogers' Theory Interaction.

Adapted from 570 syllabus, Michigan State University, School of Nursing, 1979.

Rogers (1977) identified specific nursing goals: (1) maintenance and promotion of health, (2) prevention of disease, (3) nursing diagnosis, (4) intervention, and (5) rehabilitation. For purposes of this study nursing diagnosis and intervention will be considered components of the nursing process. Promotion and maintenance of family health is a goal for this study as the family function questionnaire will identify the limitations and sources of strength for the marital dyad. The questionnaire will indicate positive areas in the couple's relationship in addition to areas where the nurse may help to support the dyad. Promotion of adequate family functioning is a goal of this study as the questionnaire will attempt to identify problems soon after the couple experience the mastectomy. These problems may be related to the different perceptions the marital dyad experience resulting from the mastectomy. Rehabilitation is a goal as the nurse works with the dyad to regain their former strength and new strength as a result of growth in family functioning.

Rogers (1977) indicated health and illness are part of the same continuum and are not dichotomous conditions. The chronic nature of cancer influences the health continuum of the individual and the marital dyad as it may intervene with the marital dyad reaching its maximum health potential. For this reason it is imperative that nursing does not set the goal as adaptation but attempts to assist the marital dyad to reach their maximum health potential on the health

continuum. Nursing accomplishes this goal of reaching the maximum health potential through the nursing process.

Figure 4 demonstrates the relationship between nursing goals and the family experiencing the impact of breast cancer.

The Nursing Process

Rogers (1977) indicated the phenomenon central to nursing's conceptual system is the life process of man. The nursing process, therefore, exists to serve people (Rogers, 1977). The nursing process implied by the stated problem places the marital dyad central to the concern of the nurse. Through the nursing process the nurse assists the marital dyad in reaching its health potential. The process the nurse utilizes to accomplish this goal is: (1) gathering data, (2) evaluating data (nursing diagnosis), (3) determining immediate and long range health goals for the individual, family, and society, (4) initiating intervention, and (5) evaluation of the effectiveness of interventions (Rogers, 1977).

The first step of the nursing process is gathering data. The data forms the basis for the subsequent components of the nursing process. The nurse and the marital dyad can determine problem areas in family functioning, strengths in family functioning, and available resources to the family (see Figure 5). Rogers (1977) defined the second step, nursing diagnosis, as encompassing the man-environment

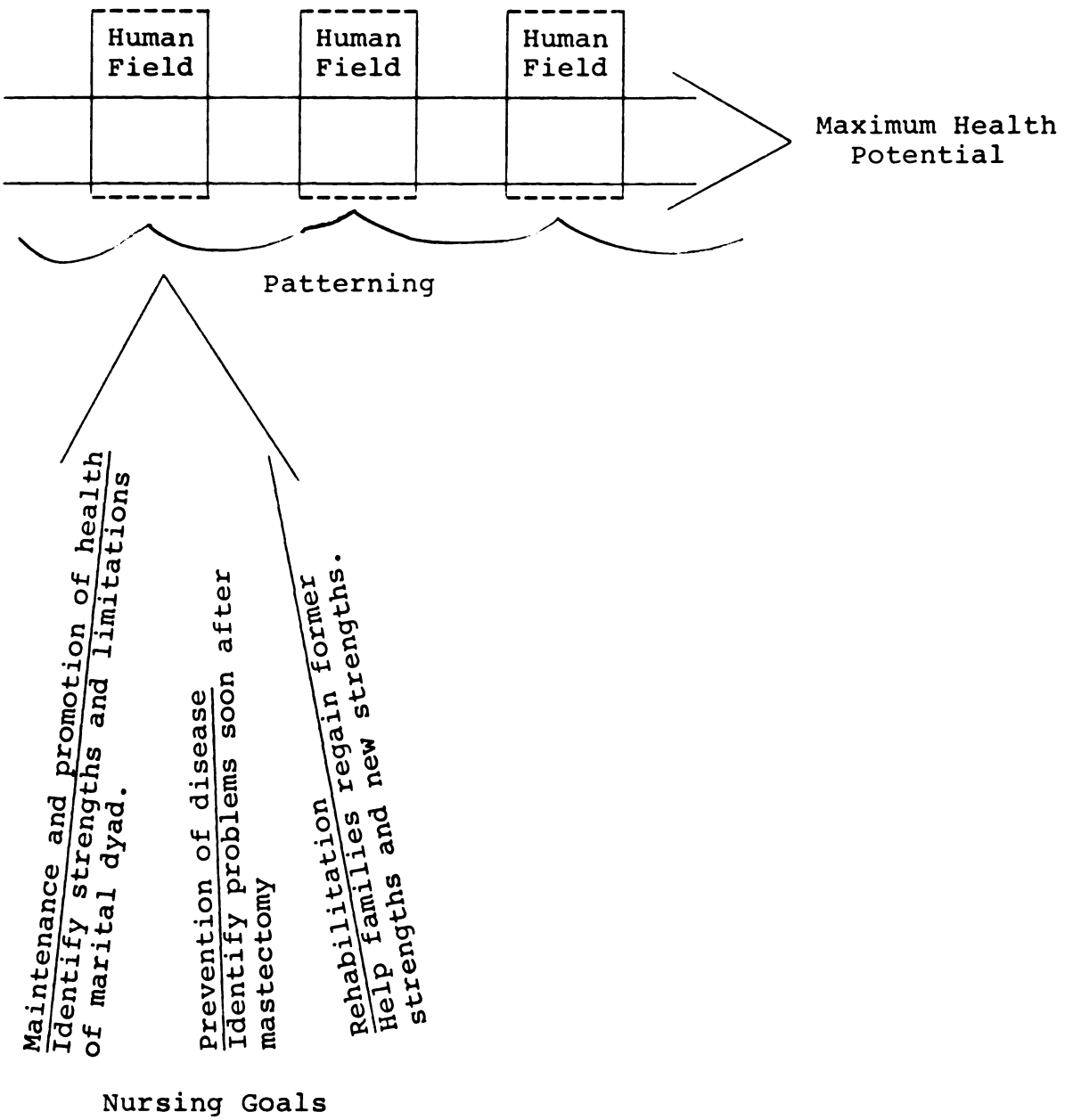

Figure 4. Nursing Goals for the Marital Dyad Experiencing the Crisis of a Mastectomy.

Adapted from: M. E. Rogers, Theoretical basis of nursing. Philadelphia: F. A. Davis Co., 1977.

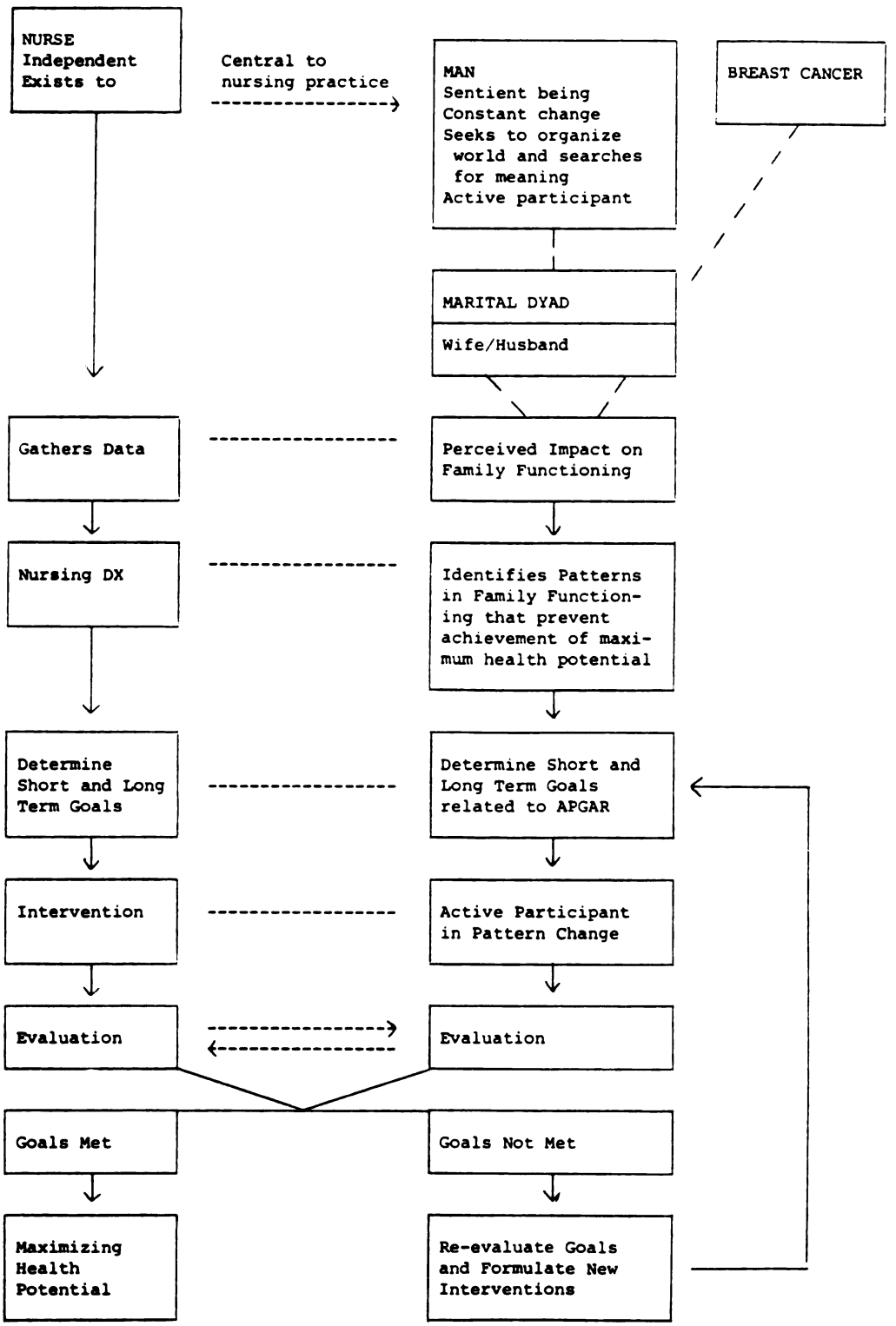

Figure 5. Theoretical Model for This Study Demonstrating the Relationship Between the Nursing Process and the Marital Dyad Experiencing the Impact of a Mastectomy.

relationship. The nursing diagnosis seeks to identify sequential, cross sectional patterning in the life process. The nursing diagnosis assists the nurse in identifying specific patterns of family functioning that prevent the marital dyad from reaching their maximum health potential, such as, change in sexual relations, difficulty adapting to the change in body image, and different perceptions between the individuals within the dyad (see Figure 5).

The third step of the nursing process is determining immediate and long term goals. Rogers (1977) emphasized the importance of man being an integral participant in the nursing process. Both the nurse and the marital dyad set goals for the couple to reach their maximum health potential. The marital dyad may need to set goals related to achieving previous level of sexual function (Affection), reestablishing former social relationships (Growth), delegating household responsibilities (Resolve), utilizing extrafamiliar resources (Adaptation), or making decisions regarding nurturance of children (Partnership).

The woman experiencing the effects of a mastectomy may need to set goals related to developing a positive self concept, adjusting to a change in body image, and/or working through the possibility of impending death (see Figure 5).

Initiating intervention that will achieve the goals established is the fourth step of the nursing process. Rogers (1977) indicated nursing intervention is directed toward repatterning of man and environment for more

effective fulfillment of life's capabilities. Life's capabilities are defined as encompassing man's humaneness, his creative promise, the capacity to feel and reason, and the symphonic potential of his tangible structure and function (Rogers, 1977). The nursing interventions utilized will be dependent upon the problems identified by the dyad which may be different perceptions and mutual goal setting between the dyad and the nurse (see Figure 5).

Giaquinta (1977) identified ten nursing interventions for the family having a member with cancer. Fostering cohesion in a family that strengthens interaction, communication, cooperation, and social and emotional involvement which help a family increase its autonomy and stability was one intervention identified. Thomas (1978), based on her model, identified the need to develop nursing intervention strategies intended to alleviate stress, enhance coping abilities, and improve the patient's and family's chances for emotional recovery. These interventions are applicable to the marital dyad experiencing the impact of a mastectomy.

The final step of the nursing process is evaluation. There are numerous strategies to determine if the goals established have been met. One method to determine if the goals for the marital dyad have been met is to determine the level of family functioning of the marital dyad at six months and one year post-surgery. Both persistent problems and those problems which have been resolved could be identified. Goals of the marital dyad and nursing intervention

strategies can be reevaluated and interventions reformulated for persistent problems. Rogers (1977) supports this cyclical process when she stated that the dynamic nature of life signifies continuous revision of the nature and meaning of diagnostic data and concomitant revision of interventional measures (see Figure 5).

Summary

In summary, the nursing process seeks to help the marital dyad maximize its health potential. The nurse accomplishes this task primarily through her knowledge of the fundamental characteristics of man (sentience, searching for meaning, active participant, etc.). The nurse gathers data concerning the perceived impact of the mastectomy on family functioning. Patterns of family functioning that prevent the dyad from reaching their health potential are specified. Long and short term goals related to Adaptation, Partnership, Growth, Affection, and Resolve are mutually set between the nurse and the dyad. Intervention is directed toward repatterning man and environment for more effective fulfillment of life's capabilities. The marital dyad is an active participant in the intervention process. Evaluation is the final component of the nursing process which encompasses formulating new interventions for goals not achieved (Figure 5 presents the theoretical model) by the marital dyad.

Rogers' theory (1977) clearly provides a theoretical basis for nursing to assist the dyad to reach its maximum health potential. The abstract concepts of Rogers' theory provide a general knowledge about man and nursing which are the primary components in the study of the perceived impact of a mastectomy on family functioning.

Implications for Nursing

The study of the marital dyad's perception of family functioning has several implications for nursing practice. Rogers (1977) indicated that nursing is an empirical science; similar to other sciences its purpose is to describe, explain, and predict the phenomena central to its concern. Rogers' theory (1977) also indicated that the wholeness of man and his integrity are basic premises underwriting nursing practice. Therefore, this study will contribute to nursing practice as it will assist nursing to describe, explain, and predict about man (the marital dyad experiencing the impact of breast cancer).

This particular study concerned with the marital dyad's perception of family functioning post-mastectomy will make important contributions to nursing because it is a more specific measure of quality of survival opposed to merely measuring return to work, physical symptoms and psychological distress. The family focus of the study will contribute to nursing knowledge in an area that has been relatively unexplored. Preventive measures for families with

cancer may be developed as consistent problems within families are identified. Home visits or contact with the family in a primary care setting may become standard care for families adjusting to the diagnosis and treatment of cancer.

The literature concerned with families primarily has had a sociological, psychological, and medical basis. Nursing needs to develop its own knowledge base if it is to describe, explain, and predict about families. Rogers (1977) indicated that prediction is the key to knowledgeable intervention. This study proposes to provide information that will be useful in describing the outcome of family-focused care.

CHAPTER III

REVIEW OF THE LITERATURE

Introduction

The literature review includes research studies and papers relevant to breast cancer and family functioning. The information on breast cancer has increased tremendously since the 1960s. The pathophysiologic, etiologic, preventive and diagnostic aspects of breast cancer are currently being extensively explored. However, despite this wealth of information relatively little is known about the quality of life for the woman who has undergone a mastectomy and its impact on her family. Several studies have evaluated to varying extents the quality of life for the woman diagnosed with breast cancer (Abeloff & Derogatis, 1977; Morris & Greer, 1977; Craig, Comstock, & Geiser, 1974; Winick & Robbins, 1977; Schottenfeld & Robbins, 1970; Priestman & Bawn, 1976; Jamison, Wellish, & Pasnad, 1978). With the exception of Wellish, Jamison, and Pasnad (1978), these studies have a major limitation in that the family's adjustment to the diagnosis, treatment and rehabilitation of breast cancer has been ignored. The literature concerning the topic of family functioning is scant. Thus it

becomes important to examine closely what is known about family facing the crisis of breast cancer and the gaps in knowledge concerning this topic. This literature review consists of two parts, (1) the impact of a mastectomy on the marital dyad, and (2) family functioning.

The Impact of a Mastectomy

Several models have been developed to assist the health professional help the family face the crisis of cancer (Wood, 1975; Tiedt, 1975; Giaquinta, 1977; Thomas, 1978). Thomas' model (1978) was developed for the analysis and understanding of the psychosocial problems the patient and family are experiencing from the impact of breast cancer. The model is a framework covering the time period before the diagnosis was made through the recovery period. Although the focus of this study is on the extended post-operative period the total impact of a mastectomy does not occur in one time period. The events occurring within the individual and family from the onset of discovering a lump through this extended post-operative period will influence the effect of the mastectomy on the family. Because Thomas' model (1978) encompasses numerous dimensions of a family facing breast cancer it will be utilized as a basis for organizing the literature review for the research and/or scholarly papers that have been completed about breast cancer. Each period will be described and then the extended post-operative period and the recovery period, which are the focal periods

of this study, will be related to the conceptual framework.

Thomas' model consists of ten critical event periods: (1) Prodromal period, (2) Prediagnostic period, (3) Diagnostic period, (4) Preoperative period, (5) Operative period, (6) Adjuvant treatment, (7) Recovery period, (8) Terminal period.

Prodromal Period

The prodromal period entailed descriptions of the patient prior to the discovery of a lump in the breast. Assessment of this period is useful as an attempt to anticipate ways in which the patient will respond or attempt to cope with problems brought on by the illness. The personality, coping attitudes, health beliefs and practices, intellectual and cognitive abilities, demographic data and self-concept are among the patient and family variables assessed (Thomas, 1978). Tiedt's model (1975) also provides a framework to understand the nature of a particular response of a patient to cancer. The model points out that the patient's responses are determined by a general pattern of behavioral responses to life. Tiedt's model (1975) demonstrated a schematic representation of the psychodynamics of the human behavioral response and extended it to the human behavioral response to cancer. Although Tiedt (1975) discussed hypothetical situations utilizing different patient behaviors, coping mechanisms, treatment courses and nursing

interventions in relation to the model there was no clinical research completed. Thus Tiedt's work provides only a framework to organize the client's response to a cancer diagnosis.

Research has been completed on the health beliefs/ attitudes of women who have not been diagnosed with breast cancer. Stillman (1977) studied women's beliefs about breast cancer and breast self-examination. The study was limited with regard to the sample. Within the particular population Stillman found that women who had high beliefs in perceived benefits (relative subjective effectiveness of breast self-examination in reducing the threat of breast cancer) and/or perceived susceptibility (subjective risk of controlling breast cancer) tended to practice self breast exam to some degree. Although the study did not find a significant relationship between health beliefs and health behavior, Stillman indicated an interest in determining the relationship between the beliefs women held about breast cancer and the woman's control over its course, suggesting a psychodynamic nature of cancer.

Studies have attempted to identify psychological parameters that may be indicative of a woman prone to breast cancer. In a literature review on women, cancer, and emotions, Surawicz (1977) indicated that in the past, cancer in women was viewed as the outcome of some psychosocial conflict, whereas, contemporary authors focus on the women's reaction to cancer and their potential for rehabilitation

suggesting less blame on the woman for developing cancer and the need to help her through this crisis. Greer and Morris (1975) studied the psychological attributes of women who developed breast cancer. A total of 160 patients admitted for a breast tumor biopsy had a structured psychiatric interview for assessment of major stressful events, reaction to stressful events, salient personality traits, and psychiatric history, in addition to several psychological tests the day prior to surgery (Hamilton Rating Scale for depression assessment, Eysenck Personality Inventory, Caine and Fould's Hostility Questionnaire). Breast cancer was found in 69 patients and benign breast lesions in 91 patients. A statistically significant association was found between breast cancer patients and an abnormal release of anger and other feelings. The women with cancer tended to suppress anger and other feelings to an extreme degree or express anger and other feelings to an extreme degree. In both groups, generally, the most common symptoms reported were anxiety and depression. There were no significant differences found in hostility, extraversion, or neuroticism between the groups, thus indicating that the expression of emotions was the only difference between those women with either a benign or malignant lesion.

Snell and Graham (1971) examined the relationship between the experiencing of social trauma and the development of cancer of the breast. The authors interviewed 352 breast cancer patients and 670 female control patients with

other types of cancer and non-neoplastic diseases of organs other than the breast and genitalia. The patients were questioned concerning specific demographic traits and specific events which occurred in the five-year period preceeding the diagnosis of their current illness. The insults measured were death, divorce, illness, financial difficulties, and unemployment occurring in the individual or family. The results of the study indicated that there was no significant difference between breast cancer cases and control in the experiencing of single or cumulative numbers of insults by either members of their families or themselves.

Schonfield (1972) completed a study on the psychological factors related to a delayed return to an earlier life-style for cancer patients. Two interviews were completed on 42 cancer patients who had previously been employed full time in a nine-month period in which 63 items of the Minnesota Multiphasic Personality Inventory (MMPI) were given in addition to a short anxiety questionnaire. The first interview occurred during the first week of radiotherapy prior to the onset of side effects. Basic demographic information and course of disease were obtained during this interview in addition to items from the MMPI. The second interview found that 33 patients had returned to work and nine had not. The respondents who had returned to work had significantly lower scores on the Moral Loss Scale and significantly higher scores on the Well Being Scale, indicating a more positive psychological outlook. The

investigator indicated that although the results needed to be confirmed with further investigation they may have implications for cancer patients' treatment. Those patients most likely in need of further support could be detected through the questionnaire when administered at the onset of treatment for malignant tumors. This information could be utilized throughout the treatment of breast cancer in order to facilitate an easier adjustment for the woman.

In summary, the literature studying the prodromal period indicates that the response to breast cancer is determined by the way individuals have responded to life prior to the onset of breast cancer. The uniqueness of each individual will most likely determine their coping mechanisms to deal with this crisis. The literature did not substantiate that a particular psychological disposition or previous stresses predispose a woman to breast cancer.

Prediagnostic Period

Thomas (1978) indicated that the prediagnostic period presents a state of generalized disorganization until additional information is obtained about the lump in the breast or some form of active coping is reestablished. Some patients may deny the symptoms exist and seek reassurance from family members. The patient often feels alone and confused. Tiedt's model (1975) indicated that the patient's interpretation of the presenting symptom may be either an

exaggeration or an underestimation of the reality of the situation.

Several studies have attempted to determine the reasons behind a delay in seeking treatment. Hammerschlag, Fisher, Decosse, and Kaplan (1964) studied the psychological variables involved in patient delay with breast symptoms. A method to determine body boundary and excerpts from the Minnesota Multiphasic Personality Inventory (MMPI) were utilized to determine if delay in seeking care was related to: (1) a more definite body image boundary, and (2) a more dominant use of the ego-defense maneuvers. A significant relationship was found between high barrier scores of body boundary and length of delay, but not with use of ego defense maneuvers. Gold (1965) completed interviews with 150 women who had diseases of the breast to determine the cause of delay in seeking treatment. Reasons given for delay in seeking medical attention were grouped into socioeconomic reasons (17 percent), lack of information (23 percent expected the lump to go away), and temporizing medical advice. Proper technique of self-breast exam was not taught to 94 percent of the women. Behavioral patterns and psychological factors associated with women who delayed were: fear and anxiety, lack of tactilism, negativism, narcissism, indecision, depression, compulsion and guilt. The author did not reveal the extent of delay that took place with these women. Although the family was not studied in relation to delay in seeking treatment it would seem that the

family would be an important factor in providing support or nonsupport for seeking care. It would also be important to study the relationship between delay in seeking care and perceived impact of the mastectomy in the extended post-operative period.

The prediagnostic period appears to be a time of denial, confusion, and fear. The relationship between the woman's and family's feelings at this time and their feelings and coping abilities in the extended post-operative period are unknown. In addition, it is not known if support and counseling during this time would alleviate the fears and anxieties occurring in later time periods.

Diagnostic Period

The diagnostic period occurs when the woman seeks medical advice. Thomas (1978) indicated the woman will seek reassurance when denial fails. In addition, the woman is curious about techniques and procedures at this time. Both the family and the woman are fearful of the outcome of these techniques and procedures. The family feels excluded during this time period (Thomas, 1978). Katz, Weiner, Gallagher, and Hellman (1970), studied the stress, distress and ego defenses that occurred among 30 women hospitalized prior to a breast biopsy. After a three-day period the level of hydrocortisone (hydrocortisone is a hormone that rises during stress) was determined. In addition, an extensive psychiatric interview was then

conducted with each of the patients by the investigator. The focus of the psychiatric interview was to determine how effectively the patient coped with the stress confronting her, as judged by her function, affect, and defensive adequacy. These items were categorized as "ego defense." Defensive adequacy was operationally defined as the success the patient was having in coping with the threat of a breast tumor.

The researchers discovered that: (1) subjects demonstrated a broad range of values for both endocrine and psychological parameters of defensive adequacy, (2) the hydrocortisone values clustered around normal levels, and (3) a significant correlation between the rank ordering of interviewer's scores for "ego defense" and hydrocortisone production. The authors concluded that the defenses of many of the subjects were operating with great success. Their findings indicated that "all that stresses does not evoke comparable distress; rather the latter is contingent upon the former for perceived, interpreted and defended against" (Katz, Weiner, Gallagher, & Hellman, 1970).

Although there were no other studies found related to the diagnostic period the study by Katz et al. (1970) does indicate that defense mechanisms are operating at this time. This would support Thomas' model (1978). There have been no studies completed on the family during this time period to substantiate that the family feels excluded during the diagnostic period.

Preoperative Period

Thomas (1978) indicated the preoperative period is a time when the woman expresses a dual attitude toward health care personnel. On one hand she is resentful that they are not able to give her much reassurance but on the other hand she is sure their care is critical to her survival. Thomas (1978) continued to point out that the family responds with confusion and uncertainty. There is a predominance of feelings of vulnerability and uncertainty among family members. The husband's feelings were not specifically described in this time period. Klein (1971) completed a paper on the crisis of breast cancer. Included in the paper were strategies that health care professionals could utilize to facilitate the woman working through this crisis. The importance of the family in helping or hindering the patient's coping was emphasized. Klein (1971) emphasized the need to prepare children for their mother's hospitalization and to respond to asked and unasked questions.

Although the literature contains no clinical studies related to the preoperative period for the woman and/or the family of the woman undergoing surgery for a malignant tumor from what is known it appears to be a time of confusion and uncertainty for a woman and her family. Again, perhaps there are strategies health care professionals could utilize in this period to facilitate better coping mechanisms in the extended post-operative period when the woman is left at home without the support of nurses and physicians.

Operative Period

During the operative period the anxiety level of both the patient and the family increases to a peak. Thomas (1978) noted that a patient who participated in the decision-making process for her care manifests a lesser degree of decreased self-esteem than the woman who did not participate. The patient must deal with loss of control, disfiguration, the unknown, and loss of femininity. The family feels left out and powerless. The Giaquinta Model (1977) supports the Thomas model beginning at the operative period. Giaquinta viewed the family as becoming disorganized with a high level of nonproductive behavior when the family learns of the cancer diagnosis. Role dilemmas at this time may result from lack of initiative and leadership in the family. The Giaquinta model also supports the Thomas model in that there is a loss of control among family members if feelings of helplessness and anger are suppressed. No studies were found in the literature concerned with the immediate operative period for either the family or the patient.

Up until this time of diagnosis hope and denial can be active coping mechanisms for the woman and her family. When the diagnosis is clear it may be the onset of the actual crisis for the family. Family functioning, according to Giaquinta (1977) is disrupted as roles must be interchanged. The unique reaction of the woman and her family at this stage may lay the basis for family functioning in later periods, thus this may be an important time for nursing

intervention to help the family cope with the actual diagnosis.

Immediate Post-operative Period

During the immediate post-operative period, according to Thomas (1978), the woman who has had a mastectomy will experience both a fear of death and relief that the surgery is over. Anxieties regarding reoccurrence and death, pain, dressings, and disfiguration may be dealt with by asking questions, seeking reassurance, or not showing interest in the laboratory findings or care (Thomas, 1978). In addition, Thomas' framework (1978) points out that there will be a search by the woman for reasons why this happened to her as well as concern for who will take care of her family. The woman may have feelings of loneliness, isolation, and uselessness (Thomas, 1978).

Giaquinta (1977) also indicated, similar to Thomas, that there is a stage when the patient and family search for meaning of cancer, or attempt to gain intellectual mastery over the cancer process. There may also be a need to insure that it could not happen to another family member in this period.

Quint (1965) studied the institutionalized practices and tactics used by physicians and nurses in dealing with women who have had a mastectomy. Twenty-one subjects were interviewed during their hospitalization in addition to participant observation by the two nurse-field workers. The

subjects were then interviewed five times by the same nurses within 18 months post-hospitalization. A family member was present during one of the final interviews. In addition 14 interviews were conducted with physicians not providing direct treatment for the particular women in the sample. Conversations with the nurses and observations of the nurses caring for cancer patients were also completed.

Quint (1965) found that the subjects were told in generalized terms about cancer and their surgical experience rather than specifics. The physicians and nurses were found to make it difficult for patients to ask direct questions. When positive axillary nodes were discovered the physician stretched the prognosis in a favorable direction to the patient but frank statements were given to the family. The nursing staff utilized gestures or actions which made it difficult for patients to initiate conversation, especially a conversation that dealt with cancer diagnosis and prognosis thus indicating the need for health professionals to deal openly about cancer with patients.

Several of the women being interviewed had difficulty with their relationship to their family. Quint (1963) in an earlier report of this study indicated some of the problems expressed were related to feelings that family members do not understand you are not the same way any more, the family being told something different from the woman, and the family being caught in the tragedy and being made impotent by it to provide support. In summary, Quint's

study (1965) found that there was a lack of communication between health care providers and patients, difficulties in family adjustment, and general concerns about disfigurement, fear of death, and an uncertain future. Although Quint's study (1965) has interesting findings it is limited with respect to (1) sample size, (2) data gathering techniques and measurement tools, (3) age of study, and (4) applicability to different research situations.

Bloom, Ross, and Burnell (1978) studied the effect of an intervention program to breast cancer before, during and after hospitalization. Women receiving standard medical care (n = 18) were compared to women receiving the counseling and information services (n = 21) immediately after surgery and again two months later. The study indicated that patients in the intervention program had significantly greater affective reactions to breast cancer than those receiving standard medical care. The patients in the intervention groups were more tense, depressed, and confused. Perhaps this would indicate patients in the intervention group experienced less denial. No differences were at first observed between the groups on the measure of self-efficacy although significant increases in sense of efficacy were found after two months in the intervention group. At two months patients in the intervention group still scored higher on mood scales although the differences were not significant. The authors concluded that the patient

counseling education program had a long-term positive value due to the increases in self-efficacy found after two months.

In an effort to evaluate the post-mastectomy hospital rehabilitation program (PMRG), Winick and Robbins (1977) mailed a three-page questionnaire three months after discharge to 1,700 women who had had a mastectomy. A total of 863 women completed and returned the questionnaire. The purpose of the PMRG program was to help the patient regain functional use of her arm and shoulder in addition to adapting to the loss of her breast and diagnosis of cancer. The program began the first post-operative day and continued daily until discharge. Group sessions were begun on the second post-operative day which included teaching of exercises, general information concerning the surgery, and protection of the arm. Three days during the week a social worker and volunteer led a discussion group concerned with the emotional and psychological adjustments of a mastectomy.

Winick and Robbins (1977) found the majority of women had normal range of motion in the affected arm (differences were observed for age and type of surgery), 84 percent (661 of 790 patients) resumed physical normal activity, and 13 percent (52 of 406 patients) suffered emotional stress (being stressed, difficulty readjusting, being unable to cope, etc.). Personal relationship adjustment was measured in patient reports of having difficulty in "nonsexual interpersonal relations with spouse, friends, family, and employer," and "sexual readjustment problems" (p. 480).

The authors concluded that there was insufficient data to support inferences about severity of personal relationship adjustment difficulties (only 15 percent of the patients gave an adequate response in this category).

In summary, the immediate post-operative period continues to be a time of crisis for both the woman and her family. The family may not be able to provide the needed support due to their own needs of working through the crisis and searching for the meaning of why this happened to them. Counseling and education were found to be beneficial to women who have had a mastectomy in this time period. The interventions utilized by health care professionals at this time may have beneficial effects in the extended post-operative period if they are helped to begin providing support to the woman at this time.

Extended Post-operative Period

Thomas' framework (1978) pointed out that a breakdown in the denial pattern occurs in the extended post-operative period resulting in the woman's anger at everyone including herself. Anger is a response of the grieving process for the loss of the breast. Thomas (1978) pointed out that sexual difficulties may occur with her partner as a result of the accumulated stress from both of their fears about her health, the anxiety surrounding the loss of the breast, and the tension due to the lack of communication about these issues. The family may seem less supportive as

they direct their energies toward returning to their life as it was prior to the discovery of the patient's symptoms and surgery (Thomas, 1978).

Woods (1975) developed a theoretical model concerned with factors influencing the couple's sexual adaptation to the mastectomy. Biological (preoperative breast size, extent of wound, pain), psychological (value of the breast, preoperative body image, importance of breast stimulation, perception of the partner's reaction) and social factors (quality of preoperative sexual relationship, occupational role) were among the factors to be considered when assessing the couple's sexual adaptation. Woods defined the mastectomy as one of the most prevalent sexually-threatening experiences because of the biological, psychological and social implications to a woman's sexuality. The model is limited in that no documented studies have utilized it to test for effectiveness.

Asken (1975) completed a literature review on the psychoemotional aspects of a mastectomy. The literature indicated that the woman feels a threat of death, sense of mutilization, loss of femininity, change in life style, and an inability to adapt to her previous roles which supports the Thomas model in various phases. There were no studies cited on the psychoemotional aspects of the mastectomy for the family.

Morris (1979) completed a comprehensive review of the literature on the psychological adjustment following a

mastectomy. The author concluded that reliable evidence on the extent of psychological morbidity is scant. Morris (1979) indicated from the review of literature that it seems likely that about three-quarters of married or older women who have had a mastectomy will recover from the experience within a year of the operation, that the marriage relationship will not suffer unduly, that more distant relationships may improve, and that most women will return to work. Based on this review, the author concluded that between one quarter and one third of women experiencing a mastectomy will be left with feelings of personal inadequacy, anxiety and depression, or sexual difficulties. The only study reviewed concerning the effects on the male partner was the study by Wellisch et al. (1978). No studies concerning the effects on the family were reviewed.

In summary, the extended post-operative period may be the time when the denial breaks down and the woman is faced with the reality of the situation. According to Thomas (1978), the family is returning to their normal roles and the woman is relatively alone. Studies have indicated most women recover within a year but there is little known of what takes place during this recovery period for the woman and her family. In addition, little is known about what could facilitate a more rapid recovery for the entire family.

Adjuvant Treatment Period

The adjuvant treatment period consists of chemotherapy and/or radiotherapy. Not all women will undergo adjuvant treatment. This period is important due to the stresses that occur as a result of the length of time and side effects from treatment. The family at this time may have feelings of guilt, tiring of the prolonged treatment and wanting to return to the normal family life (Thomas, 1978).

Priestman and Baum (1976) used the linear analogue self-assessment (L.A.S.A.) to measure the quality of life in patients receiving treatment for breast cancer. The L.A.S.A. technique measured feelings of well being, mood, level of activity, pain, nausea, appetite, ability to perform housework, social activities, level of anxiety, and the question "Is treatment helping?" Although the sample utilized was small (n = 13), the researchers found the patients who had an objective response to chemotherapy had a significant improvement in the L.A.S.A. scores indicating a response to treatment facilitates adjustment.

Meyerowitz, Sparks, and Spears (1979) studied the psychosocial implications of adjuvant chemotherapy for breast carcinoma. The sample included 50 women receiving chemotherapy for Stage II breast carcinoma. The women were interviewed individually by a psychologist utilizing a structured interview format. The focus of the interview was to determine the current quality of her life in relation

to the adjuvant therapy program. Five major categories were specified in relation to the perceived effects of chemotherapy: marital/family relationships, sexual relationships, financial situation, general level of activity, and level of work-related activity. The interviewer rated the degree of behavioral impact (changes in daily living resulting from chemotherapy) and emotional impact (patient's subjective experience of specific life changes, e.g., increased focus, newly developed values) on a seven point scale. The investigators distinguished the effects of mastectomy from chemotherapy by asking the women only to speak of the effects of chemotherapy.

The results indicated that every woman participating in the study reported adverse changes in her life resulting from the adjuvant treatment. It was found that 23 percent of the respondents indicated disruption in marital and family relationships, 17 percent reported decreases in sexual activity, 54 percent reported increased financial burden. Meyerowitz et al. (1979) indicated the most frequent and marked effect of adjuvant treatment was a decrease in both general and work-related activity. Thirty-eight percent of the women reported less active social activities and 32 percent reported less work-related activities. It was evident from this study behavioral changes lead to a greater disruption in life style than emotional changes. Every woman reported adverse effects to the chemotherapy. This study clearly points out the significant influence

of adjuvant treatment in relation to the adjustment to mastectomy.

In summary, although little research has been completed in the adjuvant treatment period, it appears to be a significant event in the course of recovery for both the woman and her family. The effects of adjuvant treatment may disrupt family functioning to a great extent due to the emotional, financial, and physical burden.

Recovery Period

The recovery period (six months and thereafter) includes a multitude of positive responses from both the patient and family. Emotional and physical rehabilitation occur in this period. A reordering of values occurs in the family as a response to the change in life style. The woman has an increased interest in work and social activities, increased sexual desire, increased self-esteem, and an optimistic but realistic outlook toward the future (Thomas, 1978). The family returns to old routines, an increased intimacy among the members occurs, and a change of realistic optimism about the future may be observed (Thomas, 1978). Schottenfeld and Robbins (1970) studied the quality of survival among 826 patients who have had a radical mastectomy. A questionnaire was completed by the respondents concerning their ability to resume pre-operative daily activities. The researchers found that after five years 84 percent of the patients were able to return to

their daily activities. This study is limited in that it does not qualify the patient and the family adjustment with regard to their quality of life other than employment/ household activities. The authors did not indicate the average time period (post-mastectomy) for the study group.

Polivy (1975) completed a literature review on the psychologic effects of a radical mastectomy. The literature has consistently indicated that a mastectomy is devastating to a woman. Depression, shame, worthlessness, shock that the basic female role may be endangered, denial and decreased value of the breast were among the psychological effects of a mastectomy reported. Although Polivy completed a thorough literature review, much of the literature cited was completed prior to 1970. The literature review did indicate a lack of information with regard to the patient's and family's long-term adjustment to mastectomy.

Morris, Greer, and White (1977) completed a two-year follow-up on both mastectomy patients and patients with benign breast disease. A total group of 160 patients were followed; 69 patients with breast cancer and 91 patients with benihn breast disease. Interviews were conducted prior to the breast biopsy and at 3, 12, and 24 months after surgery to determine social adjustment and degree of depression. The Hamilton Rating Scale was used to measure degree of depression. Four rating scales were developed to determine social adjustment: (1) marital, (2) sexual, (3) interpersonal, and (4) work satisfaction.

The study by Morris et al. (1977) found that if recovery was to take place it will occur fairly rapidly. Psychological stress was reported by 46 percent of the mastectomy patients at three months and at one year 70 percent of these patients indicated they were no longer stressed. It is important to note that more than one quarter of the respondents failed to adjust at two years post-mastectomy. Marital adjustment was similar to preoperative adjustment. in 83 percent of the cancer patients and 76 percent of the benign breast disease patients. Changes for the worse in sexual adjustment were found in 32 percent of the cancer patients and 27 percent of the benign breast disease patients at the two-year period. The preoperative level of work adjustment was maintained for 71 percent of the cancer patients. Interpersonal relationships improved for 24 percent of the cancer patients in the two-year period.

Cancer patients at two years post-surgery were found to have a significantly higher level of depression (22 percent). The authors indicated that these were features which distinguish the "at risk" category during the time of mastectomy. Those patients likely to experience depressive symptoms are patients who have signs of depression immediately prior to surgery regardless of their psychiatric history. Perimenopausal women are those women most likely to experience sexual difficulties with a mastectomy. It is important to note that 21 percent of the patients

interviewed were dissatisfied with the information received about their diagnosis.

Craig, Comstock, and Geiser (1974) studied the quality of survival in breast cancer patients. A total of 134 breast cancer patients and 260 control subjects were mailed an 18 item questionnaire in an effort to determine the respondents' quality of existence currently enjoyed. Disability, health status, employment, attitude, view of the future, and symptoms (including depression) were the variables measured for quality of survival. The majority of cases had surgery five or more years prior to the survey. The researchers found 19 percent of the cancer patients had a significant disability (5 percent related to the mastectomy) and 16 percent of the control subjects had a significant disability. The cancer patients and control group were similar when rating health status. The cancer patients had 31 percent employed while the control group had 25 percent employed. The majority of both groups rated themselves as happy (84 percent cancer patients, 89 percent control group). Both groups had an almost identical response to their view of the future. It appeared from this study the only significant effect of breast cancer was a slight increase in disability and an increase in death rate (11.2 percent of the cancer patients died within 18 months after surgery while 3.2 percent of the control group died).

Abeloff and Derogatis (1977) describe their preliminary results utilizing psychologic testing of women who

have had a mastectomy. The SCL-90 (a self-report inventory on psychological symptoms) is a self-administered 90 item inventory which measures nine principal dimensions of psychiatric symptomatology and three global indices of distress. Abeloff and Derogatis (1977) discovered the mean distress score for 34 patients with metastic breast cancer compared to 73 patients with other types of cancer was higher on the positive symptom distress index which measures the intensity of psychologic distress. Breast cancer patients were found to have a greater degree of symptomatology than other female cancer patients. In particular, the breast cancer patients shared the highest proportion of symptomatology in feeling critical of others, feeling inferior to others, feeling uneasy in crowds, feeling lonely even when with others, and having thoughts about sex that are bothersome.

Jamison, Wellisch, and Pasnad (1978) studied the psychological effects of a mastectomy on the woman. A questionnaire designed to examine the mastectomy procedures, emotional responses before and after the surgery, perceptions of effects on relationship with spouses, and attitudes towards surgeons and the nursing staff. The mean number of months post-surgery was 22. Post-mastectomy emotional adjustment was judged as excellent or very good in 60 percent of the women, 71 percent adequate, and 10 percent not very good, poor, or very poor. Those women who reported better emotional adjustment received significantly more understanding and emotional support from physicians,

surgeons, husbands, nursing staff, and children. The entire sample reported that spouses and friends were primary sources of support. More than two-fifths of the women reported that from an emotional or psychological standpoint the most difficult time was immediately after the lump was discovered. The other two periods cited as being emotionally difficult were the post-operative period in the hospital and the second and third month after surgery. Suicidal ideation was reported in one-fourth of the women and 15.4 percent reported their alcohol use had significantly increased. Younger women rated their post-mastectomy adjustment as significantly poorer than older women (45 years and above). The authors emphasized there were strong indications of successful coping found in the sample, 71 percent of the women rated their husbands reactions to the mastectomy as extremely or very understanding and 76 percent felt the loss of the breast made no difference or had a positive effect in their sexual satisfaction.

Wellisch, Jamison, and Pasnad (1978) reported on the psychosocial aspects of a mastectomy from the man's perspective. No data correlation of the previous study on psychosocial aspects of a mastectomy of woman was made with this study. A questionnaire eliciting information concerning general assessment of the marital relationship, psychological parameters, sexual relationship, decisions made prior to actual mastectomy, and the husband's perception of their wife's evaluation of the relationship and response

to surgery was administered to 31 men whose wives or partners had experienced a mastectomy. The average time since mastectomy was 22 months.

The results of Wellisch et al.'s study (1978) indicated that the men were generally stable, either coped well or denied psychosocial stresses, the man's involvement in the decision-making process regarding the mastectomy was important, and generally sexuality and intimacy were stressed. The authors pointed out that a smaller subgroup of the sample was distressed, remains distressed, and reported a downward spiraling quality of their relationship.

Thus, although only one study has been completed on the male partner of a woman who has undergone a mastectomy it does indicate that a substantial number of men also have a difficult time coping. The literature does not indicate a relationship between the men who have a difficult time coping and the coping abilities of their affected spouse.

Derogatis, Abeloff, and Melisaratos (1979) studied the psychological coping mechanisms and survival time in 35 metastatic breast cancer patients. The patients received a psychological evaluation at the time of their second visit to the oncology department. The time period post-surgery was not indicated. A 40-minute structured interview was conducted by a psychological technician focusing on the patient's attitudes and expectancies concerning the disease and its treatment. In addition, patients completed the SCL-90 measuring psychological symptoms and the Affect

Balance Scale measuring mood. The interviewer completed two instruments, one measuring patient's knowledge and attitudes concerning cancer and its treatment and one instrument that reflected the interviewer's perception of the patient's overall psychological adjustment to illness. The treating oncologist completed the same two instruments within three days of the patient's visit to the clinic. Patients were categorized into long (one year or more) and short-term survivors.

The results of the study indicated that long-term survivors had higher psychological distress levels than short-term survivors. The long-term survivors demonstrated significantly higher levels of anxiety, hostility, and psychoticism. The long-term survivors also had a significantly higher overall general severity index and positive symptom total. In addition, the measurement of mood states indicated long-term survivors manifested significantly higher scores of depression, guilt, hostility and the total negative affect score.

The oncologist's rating of adjustment to illness was significantly lower for long-term survivors than short-term survivors. In addition, the oncologist and psychological technician rated long-term survivors as possessing significantly more negative attitudes toward their illness. Derogatis et al. (1979) concluded that there were substantial differences in the psychological profiles of patients with metastatic breast cancer who survived for long periods of

time and those patients who survived for short periods of time. The long-term survivors were distressed, unhappy, and able to communicate about their disease. The long-term survivors' coping styles were external whereas the short-term survivors tended to deny the distress from the disease.

Polivy (1977) measured changes in body image, self-concept, and total self-image in mastectomy patients (n = 15) and two control groups (biopsy and surgical controls, n = 29). A questionnaire measuring the three concepts was distributed at three points in time: one day prior to surgery, six days post-surgery, and six to eleven months later. The results of the study indicated mastectomy patients displayed a decline in body image and total self-image, but not until months after surgery. Biopsy patients demonstrated a decline in body image and total self-image immediately after surgery and surgical patients demonstrated little overall change.

The recovery phase is time to increase interest in one's family, work, and social activities. The literature indicates that although the majority of women do return to presurgical activities and level of self-esteem there is a significant population who do not. The problems encountered by these women have been identified as depression, feelings of inferiority, feelings of being alone, and fear of death. One study indicated that women who reported emotional well being also found their spouses to be supportive. For the most part, the literature does not identify the role of

family support in facilitating emotional recovery or specific interactions that may enhance recovery. Individual or family characteristics that may predispose the family to more problems have not been clearly specified.

Terminal Period

The quality of dying was the overriding concern in the terminal phase. The woman worries over the care of her family. Both the patient and family have feelings of hopelessness (Thomas, 1978). The final three stages of the Giaquinta model (1977) involved restructuring the living-dying interval, bereavement and reestablishment of family goals. Both models indicated the families may feel some relief after the death has occurred.

Summary of Literature Review of the Impact of a Mastectomy

In summary, it is known that a substantial number of women are not able to cope as well as other women who have faced the crisis of mastectomy. It is not well established in the literature as to how to identify these women and their families who are having a difficult time coping or even the exact time period when problems may begin to surface. For those women and their families who are not coping, standard criteria for counseling and supportive services have not been identified. There are no studies in the literature which indicate what facilitates or diminishes effective coping to having a mastectomy.

The conceptual framework, presented in Chapter II included both the extended post-operative period and the recovery period. The extended post-operative time period of Thomas' model (1978) occurs when denial may break down and patterns in family functioning may be disrupted due to the fear of reoccurrence, fear of death, loss of self-esteem, or difficulty in adjusting to the change in body image. The literature supports the fact that women experience difficulties in coping but it does not offer information on how other family members cope or how these family members can facilitate the woman's coping process. It is during this time period that problems in family functioning related to adaptation, partnership, growth, affection, and resolve could be identified.

The conceptual framework also includes the recovery period, as this may be the first time that the woman and her spouse are able to determine goals that may enhance the level of family functioning that currently exist. In addition, the conceptual framework identifies the importance of the dyad being an active participant in pattern change. The dual participation of both the nurse and the dyad is imperative when any type of counseling takes place. The literature did not provide information regarding the role of the nurse in providing supportive counseling and education, but did indicate the need for such services.

Although the conceptual framework includes only the extended post-operative period and the recovery period,

the time periods prior to these may affect family functioning. The women's general self-esteem, her beliefs about breast cancer, the marital relationship prior to the mastectomy, adjuvant treatment, and the relationship with health care providers during the operative phase may all affect the patterns in family functioning during the extended post-operative and recovery periods.

The second section of the literature review includes studies that have been completed on family functioning. These studies are examined to determine what research has been completed in this area in addition to presenting the family APGAR, which is a major component of the conceptual framework (see Figure 5).

Family Functioning

Pless and Satterwhite (1973) developed the first family functioning index to be utilized in office practice. The purpose of the index was to indicate families requiring further attention. The principle categories of the index were marital satisfaction, frequency of disagreements, happiness, communications, weekends together, and problem solving. The index was administered to the parents of 399 school age children. Two hundred and nine of these children had chronic disorders and the remainder were healthy. In addition, the psychological adjustment of the children was assessed by case workers prior to the home interview for the family functioning index. The results of the study

indicated that the total family functioning index score was not affected significantly by the child's physical handicap. The authors concluded the index had a reasonable validity through comparing index scores with those scores established case workers. Reliability was measured through demonstrating a high correlation between the scores of husbands and wives. The case worker was requested to rate the family on a five point scale designed to reflect the content of the family functioning index.

Satterwhite, Zweig, Iker, and Pless (1976) reported on the test-retest reliability of the Family Functioning Index over a five year period. The original index was administered to 399 children in whom 209 had a chronic disease. Five years after the initial interview a sample of 29 families from the chronically ill group were studied a second time. A significant correlation was found between the original and retest Family Functioning Index score. The authors concluded the finding may indicate that the way a family relates remains stable over time and/or that the measure may also indicate relative freedom from random variation of error. No cancer populations have been retested with this instrument.

Geismar, LaSorte, and Ayres (1962) studied a technique for measuring family disorganization by rating role performance of family members in nine categories of social functioning (Family Relationships and Family Unity, Individual Behavior and Adjustment, Care and Training of Children,

Social Activities, Economic Practices, Household Practices, Health Condition and Practices, Relationship to Social Worker, and Use of Community Resources). One hundred and fifty multi-problem families were rated on a seven point continuum ranging from a level of functioning considered inadequate to functioning defined as adequate. Standards for rating were indicated in terms of criteria covering the welfare of family members and the degree of harmony or conflict between the behavior of family members and community expectations. Household, health, and economic practices were found to be the least problematic areas. Childcare, individual behavior and adjustment, and family relationships were found to be the most problematic areas. The authors concluded that disorganized families have greatest difficulty with interpersonal relationships but show greater competence in the physical management of the system. Major illness or crises were not studied in this research.

Maurin and Schenkel (1976) developed an exploratory study to describe intra-family interaction of hemodialysis patients. The focus of the study was to determine the manner in which the families performed its primary functions. A total of 20 family units were interviewed concerning various aspects of family life (e.g., role performance, finances, assignment of responsibilities, etc.). The results indicated all families cited physical reasons for the patient's level of functioning, the majority of families reflected a positive sympathetic response to the patient, families

displayed little disagreement regarding household tasks, living arrangements, social and financial matters, although all families indicated the situation demanded adjustment. The authors indicated there appeared to be an inability to verbalize feelings, that might in fact display tension. All but three of the families reported their social world to have narrowed. The majority of people manifested primary levels of very positive effect toward one another. The authors concluded the renal dialysis family is marked by the patient's manifesting great levels of control. In addition, there was minimal regard for the needs of the nonaffected family members.

Smilkstein (1978) developed the screening questionnaire called the Family APGAR which was designed to elicit the patient's view of his/her family. Smilkstein defined five parameters by which a family's functional health could be measured: Adaptation, Partnership, Growth, Affection, and Resolve. The APGAR was designed to measure both nuclear and alternative life-style families. In a follow-up study, Good, Smilkstein, Good, Shaffer, and Arons (1979) reported on the validity of the Family APGAR in which the instruments index (score) was compared with the scores of the Family Function Index developed by Pless and Satterwhite (1973) and clinical therapists. The sample included a nonclinical group of "normal" families (n = 38) and a clinical group of psychiatric outpatients (n = 20). The findings of the study demonstrated a low to moderate internal consistency between

the five items of the APGAR Index for each group. A significant difference was found between the scores of the clinical and nonclinical groups. A strong correlation was found between the Family APGAR Index score and the Pless-Satterwhite score. A moderate correlation was found between the Family APGAR Index score and the therapist's family evaluation. In addition, the scores of the husbands and wives in the nonclinical group were compared to assess the validity of the Family APGAR. The inter-spouses correlation was .65 for the Pless-Satterwhite scores and .67 for the Family APGAR scores. The authors concluded the APGAR is a valid measure of family function.

The literature on family functioning is scant although several significant studies have been completed indicating reliable and valid tools (Pless et al., 1973; Good et al., 1979). The specific areas of family functioning that have been measured focused on the marital relationship, communications, time the family has spent together, use of extrafamiliar resources, and ability to problem solve. The studies that have been completed in the area of family functioning have not utilized the family facing the crisis of cancer as a sample. It is unknown whether these instruments are sensitive enough to identify the problems or positive areas in family functioning for these particular families, although the instruments have been able to identify problems with emotional or interpersonal relationships which these families may be more prone to experience.

There were no studies completed on the cancer patient and family functioning, although the conclusions of the study by Maurin and Schenkel (1976) may be applicable. It was found that families managing the stress of chronic disease were unable to verbalize these feelings of tension and disagreement (Maurin & Schenkel, 1976). Thus, these results may have implications for this particular study in that the marital dyad may not be able to express their true feelings and concerns in relation to the mastectomy.

Summary

In conclusion, the literature does indicate studies have been completed to determine the quality of life for the woman who has undergone a mastectomy. These studies have utilized different research tools to measure the quality of life (happiness, return to normal activities, employment, disability, anxiety and depression scales) but with the exception of Wellisch et al. (1978) have not included systematic studies on the family of the cancer patient. What can be determined from the breast cancer literature is that the majority of women cope well or are able to deny problems associated with the mastectomy, especially one year post-surgery. The problems that do occur for a small, but significant number of women are depression, loss of self-esteem, fear of death, and feelings of inadequacy. Although only one study was completed on the spouse of women who have had mastectomies it did point

out several important issues: (1) the spouse is a key support person for the woman, (2) the spouse also was found to generally cope well or deny difficult feelings/problems, and (3) similar to the women a small group of men remain distressed over the mastectomy. The literature also indicated that counseling and educational programs were beneficial to women who have experienced a mastectomy. In addition, nurses were perceived as potential support persons.

The literature on family functioning was less informative than the breast cancer literature. There have been two instruments measuring family functioning that have been shown to be reliable and valid. The studies that have been completed in family functioning have shown that families have greater problems with emotional or interpersonal relationships than actual task performance (e.g., economics). In addition, families undergoing the stress of managing a chronic disease were found to deny or be unable to verbalize feelings of tension or disagreement.

There are several implications for research from the literature review for this study on the marital dyad's perception of the impact of a mastectomy on family functioning. The necessity of studying the family facing the crisis of a mastectomy is evident from the lack of research completed on this topic. Identification of the factors in the family that may contribute to the distressful symptoms that both the husband and wife may experience post-mastectomy should be explored. In addition, the discrepancies in perception

of how the family is functioning need to be identified as the discrepancies may lead to further deterioration of the relationship. A data base to substantiate the importance of counseling and education for the woman and her spouse should be developed, particularly concerning the time period when the woman first returns home. Concrete information to begin developing nursing interventions for these families needs to be provided. The literature review also pointed out a major methodological problem for this study: The study completed by Maurin et al. (1976) indicated that respondents may deny or have the inability to verbalize family tension. The marital dyad similarly may have a difficult time expressing tension. These results do support the fact, though, if there is a discrepancy in perception of family functioning perhaps one individual is having a difficult time expressing his/her true feelings.

In Chapter IV, the operational variables, sample population, instruments and scoring, procedure, method of data analyses, and hypotheses will be presented.

CHAPTER IV

METHODOLOGY AND PROCEDURE

Overview

This study was designed to determine the marital dyad's perception of the impact of a mastectomy on family functioning eight to sixteen weeks post-surgery. The sample included 20 marital dyads who were referred to the study through Reach to Recovery, surgeons in the greater Lansing area, a group of university oncologists, and a Family Practice Center in Tennessee. The study investigated the differences in perception of family functioning between the partners within the marital dyad. The study also sought to determine the relationship between perception of the impact of family functioning and other extraneous variables, such as, the woman's health perception, use of adjunct therapy, and family developmental stage. In addition, the study explored the relationship between the five concepts of family functioning defined by Smilkstein (1978) (Adaptation, Partnership, Growth, Affection, Resolve).

In this chapter, the variables will be operationally defined, hypotheses will be stated, sample characteristics will be described, the procedure for collecting data

will be described, and human rights protection will be discussed.

Operational Definition of the Variables

The major study variables are discussed below.

Major Study Variables.

(a) Marital dyad: The marital dyad consisted of a legally married couple. The marital dyad differs from the family in that, children and extended family members were excluded from the study. The instrument was developed to elicit concerns of and about the marital dyad. Questions pertained to both of the spouses' perceptions and feelings of family functioning. Each spouse was given an identical family functioning questionnaire to complete. It was determined that the couple was, in fact, a marital dyad through correspondence with the physicians and alternate data collectors participating in the study.

(b) Perception of impact: An individual's representation or image of reality; an awareness of objects, persons, and events (King, 1971, p. 22). Perception was measured through the family functioning section of the questionnaire. Items were worded in such a way to measure perception (e.g., I feel, I am, My spouse is).

The concept family was defined below to provide a better understanding of the variable family functioning.

(a) Family: Traditional nuclear family consisting of the legally married adults with or without children.

This information was elicited through the physicians and alternate data collectors participating in the study.

(b) Family Functioning: The marital dyad's perception of how they related to one another across the five dimensions of Adaptation, Partnership, Growth, Affection, and Resolve (Smilkstein, 1978).

(i) Adaptation: The utilization of intra and extra family resources for problem solving when family equilibrium is stressed during a crisis.

(ii) Partnership: The sharing of decision-making and nurturing responsibilities by family members.

(iii) Growth: The physical and emotional maturation and self fulfillment that is achieved by family members through mutual support and guidance.

(iv) Affection: The caring or loving relationship that exists among family members.

(v) Resolve: The commitment to devote time and energy to other members of the family for physical and emotional nurturing. It also usually involves a decision to share wealth and space (Smilkstein, 1978).

The family functioning section of the questionnaire was identical for both members of the marital dyad. The questionnaire was developed to measure both the individual's perception of him/herself and the individual's perception of the spouse in the five dimensions of family functioning (see Appendix A).

Extraneous Variables

In order to study the marital dyads perception of the impact of a mastectomy on family functioning it was necessary to collect data on the extraneous variables that may influence the outcome of the study. The woman's perception of her health, items to elicit information regarding the developmental stage of the family, and descriptive items concerning the events in relation to the mastectomy were among the extraneous variables measured in this study. Separate sections of the questionnaire were developed to measure these variables.

In an effort to measure the woman's perception of her health, Ware's (1977) health perception scale was utilized. A detailed description of this scale is presented in a further section of this chapter.

The sociodemographic section measured family developmental stage and events surrounding the mastectomy. Hill (1970) described family development as the entire range of family behaviors which are stimulated and contained by the changing age and sex composition of the nuclear or extended families over the life span. Items of the questionnaire elicited information on the age and number of children, number of children living at home, age of spouses, and employment status. This information was evaluated by the investigator to determine which stage of development the family was currently in according to DuVall's (1977) staging of family development (see Appendix F).

In order to gather information concerning the mastectomy questions asked for type of surgical procedure, previous history of breast and/or other type of cancer, family history of cancer, participation in Reach to Recovery, and type of adjuvant treatment. The amount of time since surgery was determined through the physicians and alternate data collectors participating in the study.

In summary, the major variables of this study included the marital dyad's perception of the impact of the mastectomy and family functioning. Extraneous variables included the woman's perception of her health, developmental stage of the family, and events surrounding the mastectomy. These variables were measured in a total of a four section questionnaire mailed to the marital dyad eight to sixteen weeks post-surgery.

The Instrument

Prior to this study, research has not been completed on the marital dyad's perception of the impact of a mastectomy on family functioning. Therefore, no standard instruments were available to measure these variables. A total of one instrument was developed to measure the variables of this study. The instrument was divided into four sections, two identical sections to measure both the husband's and wife's perception of the impact of a mastectomy on family functioning, a section to measure the woman's perception of

her health, and a section to measure sociodemographic variables.

Family Functioning Section

There was no instrument identified in the literature to measure the marital dyad's perception of the impact of a mastectomy on family functioning. Therefore, the major portion of the instrument utilized in this study to measure family functioning was adapted from Warren and Klenk's (1978) instrument that measures family functioning post myocardial infarction. The instrument has not yet been tested for reliability and validity. The Warren and Klenk Instrument was developed from Smilkstein's definitions of the Family APGAR components (Adaptation, Partnership, Growth, Affection, Resolve).

The researcher altered this instrument in several ways: (1) deleted and added items, (2) added items from the SCL-90 related to anxiety and depression, and (3) constructed the instrument so that every question which elicited the respondent's perception of family functioning post-mastectomy would also elicit the respondent's perception of the spouse's feelings about family functioning post-mastectomy.

The following items are examples of how perception of self and perception of spouse are measured:

1. I show more affection toward my spouse since the mastectomy.

2. My spouse shows more affection toward me since the mastectomy.

It will be the differences in perception of the dyad that will measure family functioning. If the woman feels that the spouse has shown less affection since the mastectomy but the husband feels he shows more affection since the mastectomy it would indicate a difference in perception, and therefore possible discord in family functioning.

The total family functioning section of the instrument consisted of a 71 item index with a Likert Scale. Each item on the index was stated in understandable, concrete terms. The marital dyad responded to individual items in the following manner:

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree

(see Appendix A for Family Functioning Section). Crano (1973) indicated the Likert Scale is a reliable attitude measurement device. This particular study will assess the attitudes of the marital dyad. Crano (1973) continued to point out that the Likert Scale is more effective in developing scales of high reliability. Therefore, a Likert Scale was utilized to measure the perception of the impact of a mastectomy on family functioning as this variable is an attitude of the marital dyad.

The SCL-90 is a 90-item self-report clinical rating scale oriented toward the symptomatic behavior of

psychiatric outpatients. The SCL-90 was utilized in the family functioning index to measure construct validity. Crano (1973) indicated that construct validation represents a series of operations whose aim is the investigation of the psychological reality of a variable (construct). Crano (1973) identified the multi trait-multi method matrix technique to measure construct validity. Because anxiety and depression are constructs to which a dysfunction in the family may be related, the SCL-90 was administered as part of the family functioning index to determine the correlation between the two constructs.

The items from the SCL-90 were developed and tested by Derogatis, Lipman, and Covi (1973). The total SCL-90 tool utilized nine symptom constructs: (1) somatization, (2) obsessive-compulsive, (3) interpersonal sensitivity, (4) depression, (5) anxiety, (6) hostility, (7) phobic anxiety, (8) paranoid ideation, (9) psychotics. The constructs of anxiety and depression were utilized in this index. These concepts were analyzed separately from the APGAR components. (See Appendix C for the items included in this study.) Internal consistency among the items measuring anxiety and depression were calculated.

Craig and Abeloff (1974) utilized the SCL-90 to assess the degree to which 30 cancer patients were distressed by each item of the SCL-90 during the past week. The results of the study indicated that more than half of the patients reported moderate to high levels of depression.

Thirty percent of the patients who participated in the study reported more than minimal levels of anxiety.

Abeloff and Derogatis (1977) conducted a preliminary study on 34 patients with metatastic breast cancer utilizing the SCL-90. Breast cancer patients were found to have higher mean distress scores when compared to 73 patients with other types of cancer. From their preliminary study the authors indicated that following a mastectomy women were found to have high levels of distress in the dimensions of interpersonal sensitivity, depression, and anxiety.

Derogatis, Rickets, and Rock (1976) investigated the validity of the SCL-90 through administering the self-report symptom inventory and the MMPI (Minnesota Multiphasic Personality Inventory). Results of the study reflected a high degree of convergence for the nine primary symptom dimension of the SCL-90 and the MMPI. The authors noted that the present study was viewed as a step in the validation program the SCL-90.

In summary, because the SCL-90 has been shown to be a valid measurement of symptom distress, dimensions of the scale were utilized to test the validity of the Family Functioning section of the instrument. The individual dimensions of the family functioning section were correlated with the anxiety and depression dimensions of the SCL-90.

The total Family Functioning section of the questionnaire included items developed to measure: Adaptation, 9 items; Partnership, 11 items; Growth, 9 items; Affection,

10 items; and Resolve, 9 items. The SCL-90 section included 21 items. The questionnaire has been arranged to distribute the items from each category throughout the instrument. A total of 71 items were included in this section. (See Appendix B for the items developed to measure perception of family functioning utilizing the APGAR components.)

Scoring and Analysis of the Family Functioning Section

A seven point Likert Scale was utilized to allow a more discriminated response from the participants. The scoring of the Likert Scale ranged from one to seven. Those questions eliciting a positive response were scored as follows:

I show more affection toward my husband since the mastectomy.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree
7	6	5	4	3	2	1

Those questions eliciting a negative response were scored as follows:

I do very little to help with household responsibilities since the mastectomy.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree
1	2	3	4	5	6	7

Therefore, those questions eliciting a positive response will receive a high point value for strongly agree and those questions eliciting a negative response will receive a low

point value for strongly agree. The instrument was an opinion scale and there were no right or wrong answers. Because the questions varied as to whether they would elicit a positive or negative response, in the actual instrument a positive statement was usually followed by a negative statement to eliminate a response set.

The scores were totaled for each component of the family APGAR. A Z score was computed for each item. A Z score is obtained by subtracting from a person's Raw Score the mean score of the total group and then dividing the result of the standard deviation of the group (Borg & Gall, 1971). The Z scores were totaled for each category of Adaptation, Partnership, Growth, Affection, and Resolve.

To measure the differences in perception between the individuals within the marital dyad both an absolute and sign discrepancy score was calculated. An absolute discrepancy score is the absolute difference between the husband's and wife's score for each category of APGAR. The sign discrepancy score is the score with a signed value of + or - for the difference between the husband's and wife's score for each category of APGAR.

A calculation of coefficient alpha, the estimate of internal consistency was completed for each category of APGAR. Coefficient alpha is a reliability estimate. To determine the coefficient alpha each item of the individual categories of APGAR is correlated with the total score for the particular category.

The higher the item-total correlation, the more predictive was the particular item of the attitude being investigated. If the coefficient is 80 or higher, an internally consistent scale has been developed (Crano, 1973).

The mean and the mode were calculated for males and females for each category APGAR. A t-test was calculated to demonstrate the differences between the means for males and females. A Z score was calculated for each item of the SCL-90 and summed for both the anxiety and depression scale. The absolute and sign score for each category of the APGAR was correlated (Pearson Product Moment Correlation) with the anxiety and depression score from the SCL-90 for both individuals of the dyad. The SCL-90 was also scored as an absolute and sign discrepancy score which was correlated with the APGAR.

Health Perception Section

The health perception questionnaire, developed by Ware (1976) was utilized to determine the woman's perception of her health. The scale consisted of six main variables titled current health, prior health, health outlook, health worry/concern, resistance-susceptibility, and rejection of sick role. Three variables were chosen for this particular study: current health, health outlook, and health worry/concern. Current health was defined to mean the extent to which the respondent presently sees himself as being healthy or ill. Current health included nine items. Health outlook

was defined to mean the respondent's prediction of things to come. Health outlook included four items. Health worry/ concern was defined as the extent to which the respondent is worried or concerned about his state of health. Health worry/concern included four items. (See Appendix D for actual items identified with each variable.)

The original instrument developed by Ware was tested on approximately 2,000 respondents in five different field tests. These tests were the basis for the instrument revision. Reliabilities of the individual items were tested by test-retest correlations on two of the original field test populations.

The correlations ranged from 0.19 to 0.77 with most of the correlations falling between .4 and .6 for single items. Test-retest reliabilities for the eight subscales ranged from 0.41 to 0.86. There was evidence that the instruments were measuring what they intended to measure (e.g., the various subscales were found to be measuring different variables).

There were five response categories for each health perception item. The woman within each marital dyad responded in the following manner:

Definitely True	Mostly True	Don't Know	Mostly False	Definitely False

The point value assigned to each response depended on the way the statement was worded (either a positive or negative

statement). For example, the statement "According to the doctors I've seen, my health is now excellent" is a positive statement. The point value for each response would be assigned as follows:

Definitely True	Mostly True	Don't Know	Mostly False	Definitely False
5	4	3	2	1

The statement "I have been feeling bad lately" is a negative statement. The point value for each response would be assigned as follows:

Definitely True	Mostly True	Don't Know	Mostly False	Definitely False
1	2	3	4	5

A Z score was calculated for each item of the health perception scale. The Z scores were then summed for current health, future health and health worry/concern. The absolute and sign discrepancy score of the APGAR for each dyad was correlated, using Pearson Product Moment Correlation, with the dimensions on the health perception scale. In addition, a reliability estimate (coefficient alpha) was also completed on each category of the health perception section.

Sociodemographic Section

The sociodemographic section was developed to provide information of the study population for descriptive purposes. The extraneous variable, woman's perception of

her health, was measured in an independent questionnaire described previously.

The developmental level of the family was measured in the sociodemographic section. Questions elicited information regarding age and number of children, number of children living at home, and employment status. Families were categorized at different stages and differences in APGAR scores were assessed through an analysis of variance. An analysis of variance is computed to determine if groups differ significantly from one another in relation to another variable.

The different treatments for breast cancer were categorized and differences in APGAR scores were assessed through analysis of variance. Descriptive statistics were utilized to analyze the other events in relation to the mastectomy. (See Appendix F for the sociodemographic section.)

Reliability and Validity

Crano (1973) defined the validity of a scale as the "extent of correspondence between variations in scores on the instrument and variation among the respondents on the underlying attribute under investigation" (p. 249). Crano (1973) continued to point out that assessment of content validity is a subjective operation and that most investigators generate a large number of diverse items focused on the domain of interest. The generation of items to the

domain of interest was completed in the development of the Family Functioning Instrument.

There are several threats to validity which are pertinent to this research study. One of the threats to validity is response bias. Because of the untested nature of the Family Functioning Instrument and the sensitive nature of the study the wording of the items may determine the subject's responses rather than the actual content of the items. Social desirability is a major threat to validity of this study. The respondents may be influenced to respond in a socially desirable way as it may be difficult to express their negative feelings about themselves or their spouse and the respondents may be pressured to confer with one another if one spouse expresses the desire to do so. Denial may also be taking place which may cause a threat to validity as the subject may not be aware of what his true feelings are.

Extreme-response sets is an additional threat to validity of this study. The subjects may be prone to respond to the extreme qualifiers of this particular opinion scale. Acquiescence is also a threat to validity of this study as the individual may tend to agree with positively worded statements. For this reason items were both negatively and positively stated, in addition to having a negative statement follow a positive statement (as much as possible) in this questionnaire.

Crano (1973) indicated that the degree of interrelationship among items tests the scale's reliability. Internal consistency describes the condition in which there is a high degree of interrelatedness among items (Crano, 1973). The internal consistency among the items was completed by computing a coefficient alpha for each category of APGAR described previously in this chapter. The results of the reliability estimate are presented in Chapter V.

In summary, there were four sections of the total questionnaire developed to measure the marital dyad's perception of the impact of a mastectomy on family functioning. The development of these individual sections has been discussed in addition to scoring and analysis of the data. Reliability and validity were discussed in relation to the variables of this study.

The instrument was pretested on three marital dyads in which the woman had experienced a mastectomy beyond the study criteria. Follow-up phone calls to these participants indicated they did not have a problem reading or understanding the document.

Hypotheses and Questions Posed

The following hypotheses were tested in this study:

1. There is no difference between the individuals within the marital dyad in perception of the impact of a mastectomy on family functioning.

Subhypotheses

1a. There is no difference between the individuals within the marital dyad in perception of the impact of a mastectomy on Adaptation.

1b. There is no difference between the individuals within the marital dyad in perception of the impact of a mastectomy on Partnership.

1c. There is no difference between the individuals within the marital dyad in perception of the impact of a mastectomy on Growth.

1d. There is no difference between the individuals within the marital dyad in perception of the impact of a mastectomy on Affection.

1e. There is no difference between the individuals within the marital dyad in perception of the impact of a mastectomy on Resolve.

2. There is no interrelationship among the five categories of family functioning.

Subhypotheses

2a. There is no relationship between the discrepancy scores of Adaptation and Partnership.

2b. There is no relationship between the discrepancy scores of Adaptation and Growth.

2c. There is no relationship between the discrepancy scores of Adaptation and Affection.

2d. There is no relationship between the discrepancy scores of Adaptation and Resolve.

2e. There is no relationship between the discrepancy scores of Partnership and Growth.

2f. There is no relationship between the discrepancy scores of Partnership and Affection.

2g. There is no relationship between the discrepancy scores of Partnership and Resolve.

2h. There is no relationship between the discrepancy scores of Growth and Affection.

2i. There is no relationship between the discrepancy scores of Growth and Resolve.

2j. There is no relationship between the discrepancy scores of Affection and Resolve.

In order to test hypothesis 1 and the subhypotheses, the individual Z scores of each partner within the marital dyad were totaled for each category of Adaptation, Partnership, Growth, Affection, and Resolve (APGAR). An absolute and sign discrepancy score was computed to measure the differences in perception between the individuals. A Pearson Product Moment Correlation was computed between each APGAR component to test hypothesis 2 and the subhypotheses.

The extraneous variables of the study were also evaluated to determine if a relationship existed between the extraneous variables and family functioning.

Families were categorized at different developmental stages and differences in APGAR scores were assessed

through an analysis of variance. The relationship between the marital dyad's perception of family functioning and the woman's perception of her health was measured by correlating the discrepancy scores for the APGAR components and the three dimensions of health perceptions. The different treatments for breast cancer were categorized and differences in APGAR scores were assessed through analysis of variance.

The data was summarized to answer the following question: What are the differences in perception between the marital dyad of the impact of a mastectomy on family functioning?

Population

The total population from which the convenience sample was drawn was every woman patient, 29-75 years old, seen in the oncology practice at the Michigan State University Clinical Center within a six month time period. In addition, the practice of a university-based surgeon was utilized to identify women meeting the study criteria within a four month time span. A community-based surgeon also provided subjects meeting study criteria in the six month time span. A Family Practice Center in Tennessee was also utilized to identify mastectomy patients. A coordinator for a specific geographic area working for Reach to Recovery also provided subjects who met the study criteria. These particular study sites were not selected at random and therefore limit the applicability of this study. No

cultural, ethnic, or socioeconomic restraints limited the population size.

The surgeons, oncologist, and Reach to Recovery coordinator were supportive of the research process and provided the information needed to complete the data collection phase.

Subjects--Criteria for Selection

The population utilized to determine the marital dyad's perception of family functioning consisted of: (1) married women residing in Michigan or Tennessee aged 29-75, who have experienced a mastectomy (simple, modified, radical), (2) women in whom the mastectomy occurred eight to sixteen weeks prior to data collection, and (3) the legal spouse of the woman who has experienced the mastectomy.

The study did not include single or widowed women, separated or divorced couples, or couples living in the same home without being legally married. In addition, the population excluded those women who have been diagnosed with a chronic disease (diabetes, renal failure). Individuals with psychosis and mental confusion and illiterate individuals were also excluded.

Procedure

The investigator made personal contact with five surgeons located in the Greater Lansing area who were known to perform mastectomies. Three surgeons agreed to participate in the study, although one of these surgeons could not

provide patients to meet the study criteria. Two surgeons refused to participate in the study on the basis that it may be upsetting to their patients. An oncology group located at Michigan State University agreed to participate in the study. A community-based oncologist was contacted to determine if he would participate in the study. This oncologist was supportive of the study, although his clients did not meet the study criteria time frame. A computer survey was completed in five Family Practice Centers to identify patients who have had a mastectomy. This survey could not identify patients who met the study criteria. A Family Practice Center in Tennessee agreed to participate in the study. In addition, the American Cancer Society was contacted to determine if women from the Reach to Recovery could be asked to participate in the study. The American Cancer Society agreed to participate on the basis that names and phone numbers of the subjects were not given directly to the investigator. (See Appendix G for Training the Alternate Data Collector for the Reach to Recovery Sites.)

A total of two surgeons, one oncology group, one Family Practice Center, and the Reach to Recovery organization participated in identifying subjects for this study.

The study was explained to the surgeons, oncologists, and alternate data collectors so that the importance of the research was emphasized. The personnel in the study sites were responsible for providing a list of women who have met

the criteria for participation, with the exception of the alternate data collectors. Once permission was granted the names, date of surgery, and phone number was given to the investigator at which time she proceeded to collect the data. The alternate data collector began collecting data when it was determined potential participants met study criteria.

Data Collection

During the data collection phase, women who have met the established criteria for participation in the study were contacted by phone. The established criteria was determined by the investigator or the alternate data collector (see Appendix H).

The phone contact by the investigator to the women who have met the established criteria to participate in the study proceeded as follows:

(a) Introduction of self by name, position, and association with physician or organization participating in the study.

(b) Explanation of the research study.

(c) Indicate what amount of time and effort is needed on the marital dyad's part to participate in the study.

(d) Request for participation in the study.

(e) Assurance of anonymity and confidentiality.

(f) Assure potential participants they can refuse.

(g) Assure potential participants that refusal would in no way interfere with health care from their physician.

(h) Allow time for the woman to discuss the study with her husband if needed.

(i) Arrange a time to call back within one week of time if needed to discuss the study with the husband. If time is not needed to discuss with husband, the researcher or alternate data collector will spend time giving in-depth instructions for completing the questionnaire.

(j) If participation is granted mail the questionnaire to both individuals within the marital dyad.

(k) At the time of the second phone call if participation is granted, the researcher or trained personnel would spend time with the woman giving in-depth instructions for completing the questionnaire (see Appendix I).

(l) The researcher or trained personnel would call the marital dyad within four days to determine if there are any problems in completing the questionnaire. The researcher or trained personnel would offer support at this time. The researcher/trained personnel would also emphasize to participants to call him/her if further questions should arise.

(m) If potential participant refused to be included in the study they would be thanked for their time; and

their name and reason for refusal would be recorded. The researcher or trained personnel will provide a telephone number to be contacted with if any questions should arise.

(n) The data was received through the mail at Michigan State University's School of Nursing and stored in the investigator's desk. At completion of the data collection phase the data was coded on Fortran coding sheets and keypunched to prepare for data analysis.

Human Rights Protection

Specific procedures were adhered to in order to protect the right of the respondent. The Michigan State University Committee on Research Including Human Subjects has established standard criteria for researchers to follow when including human subjects. An explanation of the particular research area, purpose, utilization of results, amount of time required and potential risks were provided to the subjects in the consent form (see Appendix J for a sample copy). In addition, the Investigator's Statement included information confidentiality, freedom to withdraw, and a statement that withdrawal will in no way affect the health care they are currently receiving. Results of the study following its completion were offered to the subjects. The investigator's name, address, and phone number was

provided to the participants who were asked to call the investigator if any questions should arise.

The initial phone call to potential participants also provided information on the purpose and confidential nature of the study. In addition, the subjects were told they had a right to refuse and that this in no way would affect their health care. The investigator called those subjects with whom she had direct phone contact (this would exclude those subjects obtained from Reach to Recovery and Tennessee) several days after the questionnaire arrived to determine if there were problems that were encountered by the marital dyad.

The questionnaires were precoded with a subject code number, site number, and date. The questionnaires were stored in the researcher's office. Data was recorded from the questionnaire in aggregate form.

This research study was presented to the Human Subjects Review Committee of the School of Nursing and approval was given on July 6, 1979 by the Human Subjects Review Committee chairperson.

Summary

Chapter IV included the research variables measured in this study. The scoring and the techniques for data analysis were discussed in this chapter. The sample and procedure were discussed. The hypotheses were also presented in this chapter. A discussion of human rights protection

was included. Chapter V presents the data and analyzes the results in relation to the research hypotheses and questions.

CHAPTER V

DATA PRESENTATION AND ANALYSIS

Overview

The data presented in this chapter describes the study population and the marital dyad's perception of the impact of a mastectomy on family functioning. In addition, the data will be presented to describe the relationship between extraneous variables (the woman's health perception, use of adjuvant treatment, and family developmental stage) and the marital dyad's perception of the impact of a mastectomy on family functioning. The study population was a convenience sample of 20 marital dyads in whom the woman has experienced a mastectomy.

In Chapter V a description of the findings of the study population and data presentation for the hypotheses are included. The following hypotheses were tested:

1. There is no difference between the individuals within the marital dyad in perception of the impact of a mastectomy on family functioning.

Subhypotheses

1a. There is no difference between the individuals within the marital dyad in perception of the impact of a mastectomy on Adaptation.

1b. There is no difference between the individuals within the marital dyad in perception of the impact of a mastectomy on Partnership.

1c. There is no difference between the individuals within the marital dyad in perception of the impact of a mastectomy on Growth.

1d. There is no difference between the individuals within the marital dyad in perception of the impact of a mastectomy on Affection.

1e. There is no difference between the individuals within the marital dyad in perception of the impact of a mastectomy on Resolve.

2. There is no interrelationship among the five categories of family functioning.

Subhypotheses

2a. There is no relationship between the discrepancy scores of Adaptation and Partnership.

2b. There is no relationship between the discrepancy scores of Adaptation and Growth.

2c. There is no relationship between the discrepancy scores of Adaptation and Affection.

2d. There is no relationship between the discrepancy scores of Adaptation and Resolve.

2e. There is no relationship between the discrepancy scores of Partnership and Growth.

2f. There is no relationship between the discrepancy scores of Partnership and Affection.

2g. There is no relationship between the discrepancy scores of Partnership and Resolve.

2h. There is no relationship between the discrepancy scores of Growth and Affection.

2i. There is no relationship between the discrepancy scores of Growth and Resolve.

2j. There is no relationship between the discrepancy scores of Affection and Resolve.

Descriptive Findings of the Study Population

The study population consisted of 20 white women and their legally married spouse. This population ranged in age from 29 through 72. The mean age for women was 54.5 and the mean age for men was 56. The actual number and percent of women and men for age can be seen in Tables 1 and 2.

The number of children of the couples in this study ranged from one to six as can be seen in Table 3. The mean number of children for each family was three. There were no childless dyads.

Two of the subjects had a previous history of breast cancer (10 percent) while for 18 of the subjects this was their first mastectomy (90 percent). Of the sample, 14 women (70 percent) had a modified radical mastectomy, one woman (5 percent) had a simple mastectomy, one woman (5 percent) had a radical mastectomy, and four women (20

Table 1

Age of Female Subjects (n = 20)

Age	Number of Participants	Percentage
29	1	5
30	1	5
42	1	5
51	3	15
52	2	10
53	1	5
54	1	5
55	2	10
59	1	5
60	2	10
63	1	5
66	1	5
68	2	10
72	1	5
Total	20	100

Table 2

Age of Male Subjects (n = 20)

Age	Number of Participants	Percentage
29	2	10
30	1	5
52	2	10
53	2	10
54	1	5
55	1	5
59	1	5
60	1	5
61	1	5
62	1	5
64	1	5
66	2	10
67	1	5
71	1	5
72	1	5
75	1	5
Total	20	100

Table 3

Number of Children of Marital Dyads (n = 10)

Number of Children	Number of Dyads	Percentage
1	4	20
2	2	10
3	7	35
4	5	25
5	1	5
6	1	5
Total	20	100

percent) indicated they had another procedure or did not know what type of surgical procedure they had. Four women (20 percent) had other current medical problems, such as, hypertension or arthritis. Thirteen women (68 percent) participated in Reach to Recovery.

Years of marriage was elicited from each of the marital dyads. The mean number of years married was 33. The years of marriage ranged from 6 to 49 as can be seen in Table 4. There was one missing case. Of the participants, this was the first marriage for 17 dyads (85 percent).

Women participating in this study were asked about adjunctive therapy for cancer. At the time of completing the questionnaire, five women (25 percent) were receiving chemotherapy. One woman (5 percent) was receiving radiation therapy, three women were not receiving adjuvant treatment

Table 4

Years of Marriage of Marital Dyads (n = 19)

Years of Marriage	Number of Dyads	Percentage
6	2	11
8	1	5
25	1	5
29	1	5
31	3	16
32	1	5
33	2	11
36	1	5
39	1	5
40	1	5
44	1	5
45	1	5
46	1	5
49	2	11
Total	19	100

at the time but had plans to, and eleven women (55 percent) had no plans on receiving adjuvant therapy. One woman (5 percent) checked another category.

The developmental stage for each family can be seen in Table 5.

Table 5

Developmental Stage of Family (n = 10)

Developmental Stage	Number of Dyads	Percentage
Childbearing	1	5
School Age	1	5
Launching Age	7	35
Middle Age Stage	5	25
Aging	6	30
Total	20	100

The convenience sample included five women (25 percent who worked outside of the home and fifteen (75 percent) women who were not employed outside of the home.

Data Presentation for Hypotheses

The Statistical Technique

In order to test the hypotheses several statistical anslyses were computed. The raw scores were totaled for each component of the family APGAR. A Z score was then computed for each item and summed for each category of APGAR.

A Z score is obtained by subrracting from a person's raw score the mean score of the total group and then dividing the result by the standard deviation of the group (Borg & Gall, 1971).

To measure the differences in perception between the individuals within the marital dyad both an absolute and sign discrepancy score were calculated. An absolute discrepancy score is the absolute difference between the husband's and wife's score for each category of APGAR. The sign discrepancy score is the score with a sign value of + or - for the difference between the husband's and wife's score for each category of APGAR. The husband's score was subtracted from the wife's score. It was then determined if the discrepancy score was significant at the .10 level to identify dyads with extreme discrepancy scores. The level of confidence was set due to the two-tail distribution of the scores.

A two tail t-test was calculated to determine the differences between the means for males and females. For this statistical test, in order to reject the null hypothesis, the level of confidence was set at .05.

To determine an interrelationship among the five categories of APGAR a Pearson Product Moment Correlation (4) was computed. "The size of the correlation coefficient is indicative of the degree of relationship between variables, and a low correlation indicates a low relationship" (Borg & Gall, 1971, p. 358).

The interpretation of r computed between the variables in this study was:

1. r from 0.00 to 0.15 or 0.20 represents negligible, or if close to 0.20, very slight relationship between the variables.
2. r from 0.20 to 0.40 represents low correlation present, but slight.
3. r from 0.40 to 0.60 represents moderate or fair correlation.
4. r from 0.60 to 0.80 represents marked, somewhat high relationship.
5. r from 0.80 to 1.00 represents high to very high relationship (Van Ormer & Williams, 1941, p. 65).

Borg and Gall (1971) stated that when a correlation coefficient is statistically significant, the coefficient is sufficiently high so that there is reasonable confidence that a true relationship exists between the variables. For this study, in order to reject the null hypotheses, the level of confidence was set at .05 for the correlation statistics.

Hypothesis 1: There is no difference between the individuals within the marital dyad in perception of the impact of mastectomy on family functioning.

Each APGAR component was measuring a different dimension of family functioning. Therefore, the subhypotheses were developed to measure the differences individuals

experience in perception of the impact of a mastectomy on Adaptation, Partnership, Growth, Affection, and Resolve.

The mean for each category of APGAR was computed. A t-test was computed to determine the differences between the means of husbands and wives for each category of APGAR (see Table 6).

Table 6

T-Test Demonstrating the Differences Between the Means of Husbands and Wives for Each Category of APGAR (n = 20)

APGAR Categories	T-Value	Degrees of Freedom	2-Tail Probability
Adaptation	-.07	38	.947
Partnership	1.58	38	.123
Growth	1.10	38	.278
Affection	-.08	38	.938
Resolve	-.26	38	.798

* = Significant at the .05 level.

Subhypothesis 1a: There is no difference between the individuals within the marital dyad in perception of the impact of a mastectomy on Adaptation.

Of the 20 dyads only one dyad was found to have absolute discrepancy score significant at the .100 level. This would indicate that there are differences in perception

of the impact of a mastectomy on Adaptation for this dyad (see Appendix K).

A t-value describing the difference between the mean scores of husbands and wives on adaptation was -.07 (38df) and had a two-tailed probability of .947 (see Table 6). This was not significant at the .05 level and thus the null hypothesis was accepted.

Subhypothesis 1b: There is no difference between the individuals within the marital dyad in perception of the impact of a mastectomy on Partnership.

Of the 20 dyads, one dyad was found to have both an absolute and sign discrepancy score significant at the .100 level. This would indicate that there are differences in perception of the impact of a mastectomy on partnership for this dyad (see Appendix L).

A t-value describing the difference between the mean scores of husbands and wives on Partnership was 1.58 (38df) and had a two-tailed probability of .947 (see Table 6). This was not significant at the .05 level and thus the null hypothesis was accepted.

Subhypothesis 1c: There is no difference between the individuals within the marital dyad in perception of the impact of a mastectomy on Growth.

Of the 20 dyads, three dyads were found to have both an absolute and sign discrepancy score significant at the

.100 level. This would indicate that there are differences in perception of the impact of a mastectomy on Growth among these three dyads (see Appendix M).

A t-value describing the difference between the mean scores of husbands and wives on Growth was 1.10 (38df) and had a two-tailed probability of .278 (see Table 6). This was not significant at the .05 level and thus the null hypothesis was accepted.

Subhypothesis 1d: There is no difference between the individuals within the marital dyad in perception of the impact of a mastectomy on Affection.

Of the 20 dyads, two dyads were found to have both absolute and sign discrepancy scores significant at the .100 level. This would indicate that there are differences in the impact of a mastectomy on Affection for these two dyads (see Appendix N).

A t-value describing the difference between the mean scores of husbands and wives on Affection was -.08 (38df) and had a two-tailed probability of .278 (see Table 6). This was not significant at the .05 level and thus the null hypothesis was accepted.

Subhypothesis 1e: There is no difference between the individuals within the marital dyad in perception of the impact of a mastectomy on Resolve.

Of the 20 dyads, two dyads were found to have discrepancy scores significant at the .10 level (see Appendix O). One of these dyads was found to have a significant absolute discrepancy score and the other dyad was found to have a significant sign discrepancy score. This would indicate that there are differences in the two marital dyads in perception of the impact of a mastectomy on Resolve.

A t-value describing the difference between the mean scores of husbands and wives on Resolve was -.26 (38df) and had a two-tailed probability of .798 (see Table 6). This was not significant at the .05 level and thus the null hypothesis was accepted.

In summary, hypothesis 1a, 1b, 1c, 1d, and 1e were accepted. There were no significant differences found between the husbands and wives scores for any of the APGAR components.

Hypothesis 2: There is no relationship among the discrepancy scores of Adaptation, Partnership, Growth, Affection, and Resolve.

Each APGAR component was intended to measure a different dimension of family functioning, therefore, the subhypotheses were developed to measure the relationships among the five APGAR components.

Subhypothesis 2a: There is no relationship between the discrepancy scores of Adaptation and Partnership.

The Pearson Product Moment correlation between the Absolute Discrepancy Score of Adaptation and the Absolute Discrepancy Score of Partnership was -.1085 (see Table 7). This was not significant at the .05 level. The Pearson Product Moment correlation between the sign discrepancy score of Adaptation and the sign discrepancy score of Partnership was .1791 (see Table 8). This was not significant at the .05 level. The null hypothesis was accepted. There is no relationship between the discrepancy scores of Adaptation and Partnership.

Subhypothesis 2b: There is no relationship between the discrepancy scores of Adaptation and Growth.

The Pearson Product Moment correlation between the absolute discrepancy score of Adaptation and the absolute discrepancy score of Growth was -.0715 (see Table 7). The Pearson Product Moment correlation between the sign discrepancy score of Adaptation and the sign discrepancy score of Growth was .2742 (see Table 8). The correlated discrepancy scores of Adaptation and Growth were not statistically significant at the .05 level. The null hypothesis was accepted. There is no relationship between the discrepancy scores of Adaptation and Growth.

Subhypothesis 2c: There is no relationship between the discrepancy scores of Adaptation and Affection.

Table 7

Pearson Product Moment Correlation Between the Absolute Discrepancy Scores of Adaptation, Partnership, Growth, Affection, and Resolve

Absolute Discrepancy Score Items	Adaptation	Partnership	Growth	Affection	Resolve
Adaptation	1.0000	-.1085	-.0715	.0078	.0816
Partnership	-.1085	1.000	.1070	.2907	.1815
Growth	-.0715	.1070	1.000	.4968*	-.0150
Affection	.0078	.2907	.4968*	1.0000	.2867
Resolve	.0816	.1815	.0150	.2867	1.0000

* = Significant at the .05 level.

** = Significant at the .01 level.

Table 8

Pearson Product Moment Correlation Between the Sign Discrepancy Scores of Adaptation, Partnership, Growth, Affection, and Resolve

Sign Discrepancy Score Items	Adaptation	Partnership	Growth	Affection	Resolve
Adaptation	1.0000	.1791	.2742	.3429	.2174
Partnership	.1791	1.000	.3557	.4458*	.5881**
Growth	2.742	.3557	1.0000	.5689**	.6058**
Affection	.3429	.4458*	.5689**	1.0000	.3732
Resolve	2.174	.5881**	.6058**	.3732	1.0000

* = Significant at the .05 level.

** = Significant at the .01 level.

The Pearson Product Moment correlation between the absolute discrepancy score of Adaptation and the absolute discrepancy score of Affection was .0078 (see Table 7). The Pearson Product Moment correlation between the sign discrepancy score of Adaptation and the sign discrepancy score of Affection was .3429 (see Table 8). Neither of these correlations were statistically significant at the .05 level. The null hypothesis was accepted. There is no relationship between the discrepancy scores of Adaptation and Affection.

Subhypothesis 2d: There is no relationship between the discrepancy scores of Adaptation and Resolve.

The Pearson Product Moment correlation between the absolute discrepancy scores of Adaptation and the absolute discrepancy score of Resolve was .0816 (see Table 7). This was not significant at the .05 level. The Pearson Product Moment correlation between the sign discrepancy scores of Adaptation and the sign discrepancy scores of Resolve was .2174 (see Table 8). This was not significant at the .05 level. The null hypothesis was accepted. There is no relationship between the discrepancy scores of Adaptation and Resolve.

Subhypothesis 2e: There is no relationship between the discrepancy scores of Partnership and Growth.

The Pearson Product Moment correlation between the absolute discrepancy score of Partnership and the absolute

discrepancy score of Growth was .1070 (see Table 7). The Pearson Product Moment correlation between the sign discrepancy score of Partnership and the sign discrepancy score of Growth was .3557 (see Table 8). Neither of these correlations were statistically significant at the .05 level. The null hypothesis was accepted. There is no relationship between the discrepancy scores of Partnership and Growth.

Subhypothesis 2f: There is no relationship between the discrepancy scores of Partnership and Affection.

The Pearson Product Moment correlation between the absolute discrepancy score of Partnership and the absolute discrepancy score of Affection was .2907 (see Table 7). This correlation was not statistically significant. The Pearson Product Moment correlation between the sign discrepancy score of Partnership and the sign discrepancy score of Affection was .4458 (see Table 8). This correlation was statistically significant at the .05 level. The null hypothesis was rejected. There is a relationship between the sign discrepancy scores of Partnership and Affection.

Subhypothesis 2g: There is no relationship between the discrepancy scores of Partnership and Resolve.

The Pearson Product Moment correlation between the absolute discrepancy score of Partnership and the absolute discrepancy score of Resolve was .1815 (see Table 7). This correlation was not significant at the .05 level. The

Pearson Product Moment correlation between the sign discrepancy score of Partnership and the sign discrepancy score of Resolve was .5881 (see Table 8). This correlation was significant at the .01 level. The null hypothesis was rejected. There is a relationship between the sign discrepancy scores of Partnership and Resolve.

Subhypothesis 2h: There is no relationship between the discrepancy scores of Growth and Affection.

The Pearson Product Moment correlation between the absolute discrepancy score of Growth and the absolute discrepancy score of Affection was .4968 (see Table 7). The correlation was statistically significant at the .05 level of confidence. The Pearson Product Moment correlation between the sign discrepancy score of Growth and the sign discrepancy score of Affection was .5689 (see Table 8). This correlation was significant at the .01 level. The null hypothesis was rejected. There is a relationship between both the sign and absolute discrepancy scores of Growth and Affection.

Subhypothesis 2i: There is no relationship between the discrepancy scores of Growth and Resolve.

The Pearson Product Moment correlation between the absolute discrepancy score of Growth and the absolute discrepancy score of Resolve was -.0150 (see Table 7). This correlation was not statistically significant at the .05

level. The Pearson Product Moment correlation between the sign discrepancy scores of Growth and Resolve was .6058 (see Table 8). This was significant at the .01 level. The null hypothesis was rejected. There is a relationship between the sign discrepancy scores of Growth and Resolve.

Subhypothesis 2j: There is no relationship between the discrepancy scores of Affection and Resolve.

The Pearson Product Moment correlation between the absolute discrepancy scores of Affection and the absolute discrepancy scores of Resolve was .2867 (see Table 7). This correlation was not significant at the .05 level. The Pearson Product Moment correlation between the sign discrepancy scores of Affection and the sign discrepancy scores of Resolve was .3732 (see Table 8). This was not significant at the .05 level. The null hypothesis was accepted. There is no relationship between the discrepancy scores of Affection and Resolve.

In summary, the null hypotheses 2a, 2b, 2c, 2d, 2e, were accepted and there was no significant relationship between the variables. Hypotheses 2f, 2g, 2h, 2i were rejected and there were significant relationships found between Partnership and Growth, Partnership and Resolve, Growth and Affection, and Growth and Resolve.

Reliability of the Family Functioning Section of the Questionnaire

Coefficient alpha was computed to measure the reliability of the Family Functioning Section of the questionnaire. The five categories of APGAR were individually computed for coefficient alpha.

The reliability coefficient for Adaptation was .71874. This alpha coefficient represented marked internal consistency among the items. Item 6 was deleted because it was found not to be consistent with the other items measuring Adaptation. Prior to deletion of this item the alpha coefficient was .66393.

The reliability coefficient for Partnership was .73690. This alpha coefficient represents a marked internal consistency among the items for Partnership. Item 3 was deleted because it was found not to be consistent with the other items measuring Partnership. Prior to deletion of this item the coefficient was .72400.

The reliability coefficient for Growth was .61356. This alpha coefficient represents a marked internal consisency among the items for Growth. Item 56 was deleted because it was found not to be consistent with the other items measuring Growth. Prior to deletion of this item the alpha coefficient was .59664.

The reliability coefficient for Affection was .78248. This alpha coefficient represents a marked internal consistency among the items for Affection. Items 1 and 12 were

deleted because they were found not to be consistent with the other items measuring Affection. Prior to deletion of these items the alpha coefficient was .75541.

The reliability coefficient for Resolve was .65478. This alpha coefficient represents a marked internal consistency among the items for Resolve. Items 49 and 24 were deleted because they were found not to be consistent with the other items measuring Resolve. Prior to deletion of this item the alpha coefficient was .39936.

Extraneous Variables

There were three major extraneous variables studied in relationship to the differences in perception of the impact of a mastectomy on family functioning post-surgery. These variables included the woman's perception of her health, family developmental stage, and utilization of adjuvant therapy.

Health Perception

A Z score was calculated for each item of the health perception scale. The Z scores were then summed for current health, health outlook and health worry/concern (see Appendix P). The Pearson Product Moment correlation was computed between the absolute discrepancy scores of the APGAR with the three dimensions of Health Perception (see Table 9). The Pearson Product Moment correlation was also computed between the sign discrepancy scores of the APGAR with the three dimensions of Health Perception (see Table 10).

Table 9

Correlation Matrix Demonstrating the Relationship Between the Components of Health Perception and the Absolute Discrepancy Scores of APGAR

Health Perception Components	Adaptation	Partnership	Growth	Affection	Resolve
Current Health	.0736	.4364	.1994	.1431	.0309
Health Outlook	.1516	.1336	-.0125	-.2245	-.5683
Health Worry/Concern	-.0837	.2573	-.1106	.1341	-.0824

* = Significant at the .05 level.

Table 10

Correlation Matrix Demonstrating the Relationship Between the Components of Health Perception and the Sign Discrepancy Scores of APGAR

Health Perception Components	Adaptation	Partnership	Growth	Affection	Resolve
Current Health	-.1433	.1893	.0644	.1107	.1510
Health Outlook	.0868	-.2716	.0687	.1761	-.1557
Health Worry/Concern	.1857	-.2536	-.1450	-.0889	-.0215

* = Significant at the .05 level.

None of these relationships were statistically significant. There was no relationship between the woman's perception of her health and the differences in the marital dyad's perception of Adaptation, Partnership, Growth, Affection, or Resolve.

Reliability analysis (coefficient alpha) was also computed for each category of the Health Perception Scale. The alpha coefficient for health outlook was .91558; for current health was .92486, and for health worry/concern was .69379.

Item 11 was deleted from health worry/concern in order to maintain greater internal consistency among the items. Prior to deletion of item 11 the alpha coefficient was .54316.

Adjuvant Therapy

The different treatments for breast cancer were categorized and differences in APGAR scores were assessed through an analysis of variance. Adjuvant therapy was divided into four groups. Group 1 consisted of chemotherapy or radiation. Group 2 consisted of no treatment at this time but will have in the next few months. Group 3 consisted of no plans for treatment. Group 4 consisted of the other category. The analysis of variance was computed to yield an F ratio for each discrepancy score (see Table 11). There were no significant differences found between the groups in relation to the discrepancy scores of Adaptation,

Table 11

F Ratio Determined from Analysis of Variance of Women's Use of Adjuvant Treatment

APGAR Discrepancy Scores	F Ratio
Absolute Discrepancy Score Adaptation	.1374
Absolute Discrepancy Score Partnership	1.6181
Absolute Discrepancy Score Growth	.5693
Absolute Discrepancy Score Affection	.4392
Absolute Discrepancy Score Resolve	3.2227
Sign Discrepancy Score Adaptation	1.4036
Sign Discrepancy Score Partnership	3.1086
Sign Discrepancy Score Growth	.8764
Sign Discrepancy Score Affection	1.0325
Sign Discrepancy Score Resolve	2.6328

* = Significant at the .05 level.

Partnership, Growth, Affection or Resolve. Therefore, the use of adjuvant therapy was not related to the discrepancy scores of the Family APGAR.

Family Developmental Stage

The family developmental stages were categorized and differences in APGAR scores were assessed through analysis of variance. Family development was divided into four groups. Group 1 consisted of both the childbearing and school-age stage. Group 2 consisted of the launching stage. Group 3 consisted of the middle-age stage. Group 4 consisted of the aging stage. The analysis of variance was computed to yield an F ratio for each APGAR discrepancy score (see Table 12). There were no significant differences found between the groups in relation to the discrepancy scores of Adaptation, Partnership, Growth, Affection, or Resolve. Therefore, family developmental stage is not related to the discrepancy scores of the Family APGAR.

Description of the Marital Dyad's Perception of the Impact of a Mastectomy on Family Functioning Eight to Sixteen Weeks Post-Surgery

In order to determine the marital dyad's perception of the impact of a mastectomy on Family Functioning eight to sixteen weeks post-surgery the differences in perception were computed for each dyad. Of the 20 dyads, one dyad was found to have a statistically significant difference in perception of Adaptation, one dyad had a statistically

Table 12

F Ratio Determined from Analysis of Variance of Family Developmental Stage

APGAR Discrepancy Scores	F Ratio
Absolute Discrepancy Score Adaptation	1.1328
Absolute Discrepancy Score Partnership	.4339
Absolute Discrepancy Score Growth	.2843
Absolute Discrepancy Score Affection	1.2154
Absolute Discrepancy Score Resolve	.0904
Sign Discrepancy Score Adaptation	.1871
Sign Discrepancy Score Partnership	.2863
Sign Discrepancy Score Growth	.5791
Sign Discrepancy Score Affection	1.4503
Sign Discrepancy Score Resolve	1.2014

* = Significant at the .05 level.

significant difference in perception of Partnership, three dyads were found to have a statistically significant difference in perception of Growth, two dyads were found to have a statistically significant difference in perception of Affection, and two marital dyads were found to have a statistically significant difference in perception of Resolve.

The t-values describing the differences between the mean scores of husbands and wives for each APGAR component were not significant. Thus, the results indicated there were no differences in perception of the impact of a mastectomy on Adaptation, Partnership, Growth, Affection, and Resolve among husbands and wives.

There appeared to be a slight pattern among the dyads for each category of APGAR. Dyad 6 was found to have significant difference in perception of Growth, Affection, and Resolve. Dyad 11 was found to have significant differences in perception of Adaptation and Growth. Dyad 20 was found to have significant differences in perception of Partnership and Resolve. A total of five different dyads were found to have differences in perception in one or more of the APGAR components (see Appendices K through O).

The extraneous variables Health Perception, Use of Adjuvant Therapy, and Family Developmental Level were found to be not related to the differences in perception of the impact of a mastectomy on family functioning.

Description of the Relationship Among the Discrepancy Scores of Adaptation, Partnership, Growth, Affection, and Resolve

Pearson Product Moment correlations were computed among the discrepancy scores of the variables (see Tables 7 and 8). A statistically significant relationship was found between the sign discrepancy scores of Partnership and Affection, the sign discrepancy scores of Partnership and Resolve, the sign discrepancy scores of Growth and Resolve, and both the sign and absolute discrepancy scores of Growth and Affection. The Pearson Product Moment correlations for these variables were positive indicating that as the discrepancy scores varied in one direction for one variable they varied in the same direction for the corresponding variable. Thus hypotheses 2f, 2g, 2h, and 2i were accepted.

Construct Validity of the Family APGAR

The use of the SCL-90 to measure construct validity was described in Chapter IV. Several statistical analyses were computed to determine the relationship between the SCL-90 components (anxiety and depression) and the Family APGAR discrepancy scores. The Z scores were calculated for each item of the SCL-90 and summed for anxiety and depression. A correlation matrix was computed to determine the relationship between the wife's anxiety scores and the discrepancy scores of the APGAR components, wife's depression scores and the discrepancy scores of the APGAR components, husband's anxiety scores and the discrepancy scores of the

APGAR components, and the husband's depression scores and the discrepancy scores of the APGAR components (see Tables 13 and 14). Statistically significant correlations were found between the wives' anxiety scores and the sign discrepancy score of Adaptation. The Pearson Product Moment correlation was -.3876. In addition, the wives' anxiety scores and the sign discrepancy scores of Resolve were statistically significant (< .05). The Pearson Product Moment correlation was -.3809. The Pearson Product Moment correlation between the husbands' depression scores the absolute discrepancy scores of Resolve was -.3882. This was statistically significant at the .05 level. The Pearson Product Moment correlation between the husbands' anxiety scores and the absolute discrepancy score of Resolve was -.4029. This was statistically significant at the .05 level.

The data would appear to indicate that as the discrepancy scores of Adaptation increased the wife's anxiety scores decreased. Similarly, as the discrepancy scores of Resolve increased the wife's anxiety scores decreased. The husbands' depression scores were found to decrease as the discrepancy scores increased for Resolve. In addition, the husbands' anxiety scores would decrease as the discrepancy scores Resolve increased. In summary, results of the correlations between the SCL-90 components and the APGAR components indicate that although there are significant relationships among the variables these are negative relationships. There

Table 13

Correlation Matrix of SCL-90 Components and APGAR Absolute Discrepancy Scores

SCL-90 Components	Adaptation	Partnership	Growth	Affection	Resolve
Wife's Depression Scores	-.1275	-.1065	-.0364	.1177	-.2375
Wife's Anxiety Scores	-.2189	-.3524	.2829	.1790	-.2324
Husband's Depression Scores	-.0463	.1783	.0305	.0121	-.3882*
Husband's Anxiety Scores	.0102	.2328	.1016	.0289	-.0429*

*Statistically significant at the .05 level of confidence.

Table 14

Correlation Matrix of SCL-90 Components and APGAR Sign Discrepancy Scores

SCL-90 Components	Adaptation	Partnership	Growth	Affection	Resolve
Wife's Depression Scores	-.1846	-.3718	-.3778	-.3357	-.3566
Wife's Anxiety Scores	-.3876*	-.2724	-.2060	-.1955	-.3809*
Husband's Depression Scores	.0248	-.1203	.0499	.0396	-.1036
Husband's Anxiety Scores	.1440	-.1503	.0678	-.0609	-.2777

*Statistically significant at the .05 level of confidence.

were no significant relationships found between high anxiety and depression scores and large APGAR discrepancy scores.

The absolute and sign discrepancy scores of each component of the APGAR were correlated with the absolute and sign discrepancy scores of anxiety and depression (see Tables 15 and 16). One significant relationship was found between the variables. The Pearson Product Moment Correlation between the sign discrepancy score for Adaptation and the sign discrepancy score for anxiety was -.4882. This was statistically significant at the .05 level. The negative correlation would indicate that as the differences in perception of Adaptation varied in one direction the differences in perception of symptoms of anxiety varied in the opposite direction. For example, if there were large differences in perception of Adaptation there would be small differences in the anxiety scores between husbands and wives (when the husbands' scores were subtracted from the wives' scores).

Reliability analysis was also computed for the SCL-90 components. The coefficient alpha for the depression score was .9053. The coefficient alpha for the anxiety scale was .92442.

Summary

In Chapter V, the data was presented that described the marital dyad's perception of the impact of a mastectomy on family functioning. The relationship among the variables of the Family APGAR was also presented. In addition, the

Table 15

Correlation Matrix Between the Absolute Discrepancy Scores for APGAR Categories and the Absolute Discrepancy Scores for Anxiety and Depression for Both Husbands and Wives

SCL-90	Adaptation	Partnership	Growth	Affection	Resolve
Absolute Depression	.1205	.0947	-.3230	.1601	.2485
Absolute Anxiety	.0275	.2963	-.3303	-.1132	.1260

* = Significant at the .05 level.

Table 16

Correlation Matrix Between the Sign Discrepancy Scores for APGAR Categories and the Sign Discrepancy Scores for Anxiety and Depression for Both Husbands and Wives

SCL-90	Adaptation	Partnership	Growth	Affection	Resolve
Sign Depression	-.1736	-.1871	-.3544	-.3104	-.1906
Sign Anxiety	-.4882*	-.1285	-.1363	-.1322	-.1220

* = Significant at the .05 level.

population characteristics were described. The extraneous variables were correlated with the discrepancy scores of the dyads utilizing Pearson Product Moment correlation. Reliability analysis was completed on each category of the family APGAR utilizing coefficient alpha. In Chapter VI, the data will be summarized. Nursing implications to education, research and practice will be discussed.

CHAPTER VI

SUMMARY OF FINDINGS

Overview

In Chapter VI a summary and interpretation of the research findings are discussed. Implications for nursing practice and education are explored. Recommendations for future studies are offered.

Summary and Interpretation of Findings

Descriptive Findings of the Study Population

The Breast Cancer Digest (1979) reported that the incidence of breast cancer increases rapidly as a woman enters her forties, levels off between the ages of 45 and 55, and then continues to rise at a more gradual rate. This report was fairly consistent with the study population as the mean age for women was 54.5. The majority of women in the sample (18) were over the age of 40, although the ages ranged from 29 to 72. All of the dyads participating in the study had children, although only nine of the dyads were still raising children at home. It is important to indicate that 35 percent (n = 37) of the sample was in the

launching stage of family development which is a time of loss for most women.

The mastectomy procedure was the first for the majority of women (18). Most of the women (14) had a modified radical mastectomy, while only one woman had had a radical mastectomy and one woman had a simple mastectomy. In addition, most women (11) had no plans for adjuvant therapy, three women had plans for adjuvant treatment, five women were receiving chemotherapy, and one woman was receiving radiation therapy. The sample include five women (25 percent) who worked outside of the home and 15 (75 percent) women who were not employed outside of the home.

Hypotheses

Hypothesis 1: There is no difference between the individuals within the marital dyad in perception of the impact of a mastectomy on family functioning.

Each component of the Family APGAR measured a different dimension of family functioning, thus, subhypotheses were developed to test the differences in perception of the impact of a mastectomy on Adaptation, Partnership, Growth, Affection, and Resolve.

Subhypothesis 1a: There is no difference between the individuals within the marital dyad in perception of the impact of a mastectomy on Adaptation.

Smilkstein (1978) defined Adaptation as the utilization of intra and extra familial resources for problem-solving when family equilibrium is stressed. The items measuring adaptation were concerned with the perceptions of how severe the crisis was for the dyad, supportive ability of the spouse, problem-solving ability, and the need for professional help. Of the 20 dyads only one dyad was found to have a significant difference (at the .10 level) in perception of the impact of a mastectomy on Adaptation (see Appendix K). The t-value was -.07 (38df) which was not significant at the .05 level. It is important to note that the data does not indicate how severe the crisis was perceived, how supportive the spouses were to one another, or how many dyads perceived the need for professional help. For the total 20 dyads the hypothesis was accepted. The data indicates that the marital dyads did not have significant differences in perception among these items.

Smilkstein (1978) defined family functioning as the process of nurturing that promotes emotional and physical growth and maturation for all members. Lidz (1963) indicated that the family performs three sets of functions: (1) provides physical care and nurturing for the children and at the same time directs their personality development, (2) furnishes a means to personal fulfillment and stability for the spouse, and takes responsibility for enculturing new members for society. Pless and Satterwhite (1973) defined family functioning as the way in which a family,

as a unit, operates across many dimensions. These dimensions included: marital satisfaction, frequency of disagreements, happiness, communications, weekends together, and problem solving.

It could be argued that although both individuals within a dayd perceived the crisis as severe they were functioning at a level that promoted emotional growth and maturity for family members defined by Smolkstein (1978). The dyad may also be able to communicate well, have a small number of disagreements, and be satisfied with their marriage according to the criteria defined by Pless and Satterwhite (1973). It may be safe to assume, though, that the dyad with such extreme discrepancy scores may be experiencing frequent disagreements, difficulty in communicating, or have individuals unaware of the impact of the mastectomy on one another. Although the majority of dyads had similar perceptions on the effect of a mastectomy on Adaptation the sample size was small and one dyad experiencing extreme discrepancy scores has implications of the need for assessment of the different dimensions of family functioning for every marital dyad experiencing the crisis of a mastectomy.

Subhypothesis 1b: There is no difference between the individuals within the marital dyad in perception of the impact of a mastectomy on Partnership.

Smilkstein (1978) defined Partnership as the sharing of decision making and nurturing responsibilities by family

members. The items measuring Partnership were concerned with the dyad's perception of ability to discuss feelings about breast cancer, sharing time with one another, decision making, and letting one another down. Of the 20 dyads participating in the study, one dyad was found to have both an absolute and sign discrepancy score that was significant at the .10 level (see Appendix L). The t-value was 1.58 which was not statistically significant. Therefore, most dyads agreed upon these items and appeared to be sure of either the inability or ability to discuss their feelings about breast cancer, or the state of the decision-making process in the marriage.

The dyad who experienced extreme discrepancy scores may have one partner unaware or denying the ability to discuss feelings about breast cancer or the mutuality of decisions made in the marriage which could cause a disruption in family functioning as defined by Pless and Satterwhite (1973) or Smilkstein (1978). The emotional growth and maturation of the dyad from the crisis of a mastectomy may be hindered as a result of the differences in perception. It is not known to what extent the differences in perception of these items were occurring prior to the mastectomy or whether the mastectomy enhanced the differences in perception due to denial of one partner or both. For the total 20 dyads the hypothesis was accepted.

Subhypothesis 1c: There is no difference between the individuals within the marital dyad in perception of the impact of a mastectomy on Growth.

Smilkstein (1978) defined Growth as the physical and emotional maturation and self-fulfillment that is achieved by family members through mutual support and guidance. The items measuring the concept Growth were concerned with the dyad's perceptions of the ability to deal with change, participation in social activities, going out for entertainment, spending time doing things different than the spouse, and coping ability of future stressful situations. Of the 20 dyads participating in the study three dyads were found to have both an absolute and sign discrepancy score significant at the .100 level (see Appendix M). The majority of dyads were found to have similar perceptions on how one another dealt with change, degree of participation in social activities, and future coping ability. The t-value was 1.10 which was not statistically significant.

It was interesting that three dyads were found to have extreme discrepancy scores for the concept of Growth. Of the five APGAR components, Growth, was the component with the largest number of significant discrepancy scores. The items measuring future coping ability and perception of how one deals with change may have been more evasive than other items on the family APGAR and therefore caused a larger amount of discrepancy scores. The opposite view

could be taken, and it may be implied that the three dyads had actual differences in perception of Growth, and therefore, were unaware of one another's perception of emotional maturation for themselves and each other. The items measuring perception of going out for entertainment and participating in social activities were more concrete. Perhaps the spouses were unaware or denying the increase or decrease in these activities as a result of the mastectomy, or one partner may be denying the effect of the mastectomy on social and entertainment activities. For the total 20 dyads the hypothesis was accepted.

Subhypothesis 1d: There will be no difference between the individuals within the marital dyad in perception of the impact of a mastectomy on Affection.

Smilkstein (1978) defined Affection as the caring or loving relationship that exists among family members. The items utilized to measure the concept Affection were concerned with the dyad's perceptions of the amount of attention shown post-surgery, loss of sexual interest or pleasure post-surgery, physical attraction toward one another, and showing that one cares about the spouse. Two dyads of the 20 dyads, were found to have both absolute and sign discrepancy scores significant at the .10 level (see Appendix N). The t-value was -.08 which was not statistically significant.

The concept of Affection, because it includes sexual interest post-mastectomy, has been studied to some extent in the literature. Thomas (1978) indicated sexual difficulties occur from accumulated stress from both partners' fears about the woman's health, anxiety surrounding the loss of the breast, and tension due to lack of communication about these issues. Abeloff and Derogatis (1977) utilized the SCL-90 to complete psychological testing in women who have had a mastectomy. Abeloff and Derogatis (1977) found that breast cancer patients when compared to patients in the other types of cancer had the highest proportion of symptomatology in having thoughts about sex that were bothersome. Jamison et al. (1978) found that 76 percent of their sample of breast cancer patients felt the loss of the breast made no difference or had a positive effect in their sexual satisfaction. Wellisch et al. (1978) found that the partners of women who have experienced a mastectomy felt that generally, sexuality and intimacy were stressed. The literature seems to indicate sexuality is an area where difficulties may arise post-surgery.

This study, although not only tapping sexuality in the concept of Affection found that the majority of dyads did not have extreme differences in perception of sexual loss, physical attraction, attention to one another, or the ability to share caring toward one another. These dyads may or may not be having difficulty in demonstrating affection but because their perceptions are not extremely

different they may be functioning at a level that permits growth and maturation, communication, and few disagreements.

The two dyads found to have extreme discrepancy scores may be experiencing difficulties in communication about an area that is very sensitive to couples in whom the woman has had a mastectomy. Perhaps one partner perceived he/she was demonstrating care and affection while the other partner perceived a lack of care and affection. Although two of the 20 dyads were found to have significant discrepancy scores, these two couples appear to have a need for counseling in the area of communicating about sexuality and showing affection post-mastectomy. For the total 20 dyads the hypothesis was accepted.

Subhypothesis 1e: There is no difference between the individuals within the marital dyad in perception of the impact of a mastectomy on Resolve.

Smilkstein (1978) defined Resolve as the commitment to devote time to other members of the family for physical and emotional nurturing. Resolve usually involves a decision to share wealth and space. The items utilized to measure the concept Resolve were concerned with the dyad's perceptions of feelings of responsibility toward one another, making time for family activities, financial status, and helping with household responsibilities. Two dyads, of the 20 dyads, were found to have discrepancy scores at the .10 level (see Appendix O). One of the dyads

was found to have a significant absolute discrepancy score and the other dyad was found to have a significant sign discrepancy score. The other 19 marital dyads did not have differences in perception regarding the items measuring Resolve. The t-value was -.26 which was not statistically significant.

Quint (1963) reported from the interviews completed on 21 women who have had a mastectomy that several of the women being interviewed had difficulty with their relationship to their family. Some of these problems were related to feelings that family members do not understand that they are not the same anymore, the family being told something different from the woman, and the family being caught in the tragedy and being made impotent by it to provide support. Perhaps it may be that in the two dyads experiencing extreme discrepancy scores the women had difficulty in communicating their feelings to family members that they were not the same anymore or could not maintain family responsibilities during the time of crisis. It may also be argued that the dyads experiencing extreme discrepancy scores may have had difficulty in husbands providing support because of being caught up in the tragedy and being made impotent by it. These husbands may not have perceived the lack of support they were providing to one another. Again, the need to assess specific patients to identify these types of problems is imperative for nurses. For the total 20 dyads the hypothesis was accepted. Research

studies need to investigate further, the basis for different perceptions among marital dyads who have experienced a major crisis, such as a mastectomy.

Hypothesis 2: There will be no interrelationship among the discrepancy scores for Adaptation, Partnership, Growth, Affection, and Resolve.

Each component of the family APGAR measured a different dimension of family functioning, thus the following subhypotheses were developed to determine the relationships among the variables.

Subhypothesis 2a: There will be no relationship between the discrepancy scores of Adaptation and Partnership.

The correlation between the absolute discrepancy score of Adaptation and the absolute discrepancy score of Partnership was low, -.1085, which was not statistically significant. The relationship between the sign discrepancy score of Adaptation and the sign discrepancy score of Partnership was similarly low, .1971, which was not statistically significant. The low relationship between the two concepts would indicate that the dyads experiencing differences in perception of the impact of a mastectomy on Adaptation would not be related to the differences in perception the dyads experienced in Partnership. Thus, the hypothesis was accepted. It could further be argued that although dyads may have had different perceptions of the

severity of the crisis or how to deal with the crisis (Adaptation) this would not be related to the differences dyads perceived in communicating about the crisis or in the differences dyads perceive in letting one another down (Partnership). Research studies need to further substantiate that although dyads may be having difficulty in one component of family functioning they may not be having difficulty in another component. It is important to emphasize that each component of the family APGAR was measuring a unique dimension of family functioning. The alpha coefficient for Adaptation was .7181. The alpha coefficient for Partnership was .73690.

Subhypothesis 2b: There is no relationship between the discrepancy scores of Adaptation and Growth.

The relationship between the absolute discrepancy score of Adaptation and the absolute discrepancy score of Growth was low, -.0715, which was not statistically significant. The relationship between the sign discrepancy score of Adaptation and the sign discrepancy score of Growth was similarly low, .2742, which was not statistically significant. The lack of relationship between the two concepts would indicate that dyads experiencing differences in perception of the impact of a mastectomy on Adaptation perceive the differences in perception of Growth in a unique manner. Again, it is important to emphasize that the alpha coefficient for Adaptation and Growth were high and that each

of these components measure a unique dimension of family functioning. The alpha coefficient for Adaptation was .7187. The alpha coefficient for Growth was .61356. Although dyads who experienced different perceptions of the severity of the crisis or how to manage the crisis (Adaptation) these differences would not be related to the differences dyads perceived in how one another dealt with change, how the crisis of a mastectomy will help coping abilities in future situations, or how social activities have changed since the mastectomy (Growth). The hypothesis was accepted. There was not a relationship between the two components, thus it becomes essential to further assess each of these components of family functioning and to examine if they are unique variables.

Subhypothesis 2c: There is no relationship between the discrepancy scores of Adaptation and Affection.

The relationship between the absolute discrepancy score of Adaptation and the absolute discrepancy score of Affection was .0816. This was not statistically significant. The relationship between the sign discrepancy score of Adaptation and the sign discrepancy score of Affection was .2174. The low relationship between the two concepts would indicate that these items are measuring unique dimensions. The alpha coefficient of Adaptation was .7187. The alpha coefficient of Affection was .78248. In addition, the dyads experiencing differences in perception of the

impact of a mastectomy on Adaptation would not be related to the differences in perception dyads experienced in Growth. The null hypothesis was accepted. Although dyads may have had differences in perception of the severity of the crisis or how to deal with the crisis (Adaptation) this would not be related to the differences dyads perceive in loss of sexual interest, paying attention to one another or amount of physical attraction to one another (Affection). Thus Adaptation appears to be a unique dimension from Affection.

Subhypothesis 2d: There is no relationship between the discrepancy scores of Adaptation and Resolve.

The relationship between the absolute discrepancy scores of Adaptation and the absolute discrepancy scores of Resolve was low, .0816, which was not statistically significant. The relationship between the sign discrepancy scores of Adaptation and the sign discrepancy scores of Resolve was similarly low, .2174, which was not statistically significant. The low relationship between the two concepts would indicate that dyads experiencing differences in perception of the impact of a mastectomy on Adaptation would not be related to the differences in perception dyads experienced in Resolve. These items are measuring unique dimensions of family functioning as demonstrated by the alpha coefficients. The alpha coefficient for Adaptation was .7187. The alpha coefficient for Resolve was .65478.

Although the dyads may have had different perceptions of the severity of the crisis or how to deal with the crisis (Adaptation) this would not be related to the differences dyads perceived in making time for family activities, helping with household responsibilities, or feeling responsible for the well being of one another (Resolve). Hypothesis 2d was accepted.

Subhypothesis 2e: There is no relationship between the discrepancy scores of Partnership and Growth.

The relationship between the absolute discrepancy scores of Partnership and the absolute discrepancy scores of Growth was low, .1070, which was not statistically significant. The relationship between the sign discrepancy scores of Partnership and the sign discrepancy scores of Growth was .3857, which was not statistically significant. The low relationship between the two components would indicate that dyads experiencing differences in perception of the impact of a mastectomy on Partnership would not be related to the differences in perception the dyads experienced in the concept Growth. These items are measuring unique dimensions of family functioning as demonstrated by the alpha coefficients. The alpha coefficient for Partnership was .73690. The alpha coefficient for Growth was .61356. Although dyads may have had different perceptions in the way one another was communicating about the crisis or differences in perception about letting one another down

(Partnership), these differences would not be related to the differences dyads perceived in how one another dealt with change, how the crisis of a mastectomy will help coping abilities in future situations, or how social activities have changed since the mastectomy (Growth). Although the items which measured the concept Partnership were concerned with communication between the dyad, it is interesting that the discrepancy scores in Partnership were not related to the discrepancy scores of the concept Growth. Hypothesis 2e was accepted. There is no relationship between the discrepancy scores of Partnership and Growth.

Subhypothesis 2f: There is no relationship between the discrepancy scores of Partnership and Affection.

The correlation between the absolute discrepancy scores of Partnership and the absolute discrepancy scores of Affection was .2907. This was not a statistically significant correlation. The relationship between the sign discrepancy scores of Partnership and the sign discrepancy scores of Affection was .4458. This correlation was significant at the .05 level of confidence. The relationship between Partnership and Affection exists when all the husbands' scores are subtracted from the wives' scores. The alpha coefficient for Partnership was .73690. The alpha coefficient for Affection was .78248. The significant relationship between the two concepts would indicate that dyads experiencing differences in perception of Partnership

would be related to the differences in perception the dyads experienced in Affection. The null hypothesis was rejected. This relationship indicates that these two components may not be tapping unique dimensions in that items measuring communication, letting one another down, loss of sexual interest, change in physical attraction to one another, and other items of the scale are similar between these two concepts. Further research would be necessary to determine the unique dimensions of the two scales Partnership and Affection.

Subhypothesis 2g: There is no relationship between the discrepancy scores of Partnership and Resolve.

The relationship between the absolute discrepancy scores of Partnership and the absolute discrepancy scores of Resolve was low, .1815, which was not statistically significant. The correlation between the sign discrepancy scores of Partnership and the sign discrepancy scores of Resolve was .5881, which was statistically significant at the .05 level of confidence. The null hypothesis was rejected. The relationship between the sign discrepancy scores of Partnership and Resolve exists when all of the husbands' scores were subtracted from the wives' scores. The alpha coefficient of Partnership was .73690. The alpha coefficient of Resolve was .65478.

The significant relationship between the two concepts would indicate that the differences dyads experienced

in perception of Partnership would be related to the differences in perception the dyads experienced in Resolve suggesting that dimensions on these two concepts are similar.

It may be implied that items on perception of communicating about the crisis or letting one another down (Partnership) may be similar to the differences dyads perceived in making time for family activities, helping with household responsibilities, or feeling responsible for the well being of one another (Resolve). There is a need for further testing of these two parameters of the family APGAR.

Subhypothesis 2h: There is no relationship between the discrepancy scores of Growth and Affection.

The correlation between the absolute discrepancy scores of Growth and the absolute discrepancy scores of Affection was .4968 which was statistically significant at the .05 level of confidence. The correlation between the sign discrepancy scores of Growth and the sign discrepancy scores of Affection was .5689, which was statistically significant at the .05 level of confidence. Thus the correlation between the discrepancy scores was significant for both the absolute and sign values. The null hypothesis was rejected. The alpha coefficient for Growth was .61356. The alpha coefficient for Affection was .78248.

The significant relationship between the two concepts would indicate that the differences dyads experienced

in perception of Growth was related to the differences in perception the dyads experienced in Affection. This relationship implies that the dimensions tapping differences in perception about how one another deals with change, how the crisis of a mastectomy will help future coping abilities, or how social activities have changed since the mastectomy (Growth) may be related to the differences dyads perceived in the loss of sexual interest, paying attention to one another, or the amount of physical attraction to one another. This suggests that the items in each of these subscales may be similar and are not measuring unique dimensions. There is a need for further research to investigate the relationship between these two components.

Subhypothesis 2i: There is no relationship between the discrepancy scores of Growth and Resolve.

The relationship between the absolute discrepancy score of Growth and the absolute discrepancy score of Resolve was low, -.0150, which was not statistically significant. The correlation between the sign discrepancy score of Growth and the sign discrepancy score of Resolve was .6058, which was statistically significant at the .05 level of confidence. The null hypothesis was rejected. The relationship between the discrepancy scores of Growth and Resolve exists when all of the husbands' scores were subtracted from the wives' scores. The alpha coefficient

for Growth was .61356. The alpha coefficient for Resolve was .65478.

The significant relationship between the two concepts would indicate that differences dyads experienced in perception of Growth would be related to the differences dyads experienced in perception of Resolve. This relationship implies that parameters measuring differences in how one another deals with change, how the crisis of a mastectomy will help future coping abilities, or how social activities have changed since the mastectomy (Growth) may be related to the differences dyads perceive in making time for family activities, helping with household responsibilities, or feeling responsible for the well being of one another (Resolve). Thus, the items measuring the concept Resolve may not be unique from items measuring the concept Growth. It is necessary to further study the items of these subscales to determine their uniqueness.

Subhypothesis 2j: There is no relationship between the discrepancy scores of Affection and Resolve.

The relationship between the absolute discrepancy scores of Affection and Resolve was low, .2867, which was not statistically significant. The relationship between the sign discrepancy scores of Affection and the sign discrepancy scores of Resolve was similarly low, .3732, which was not statistically significant. The low relationship between the two concepts would indicate that dyads experiencing

differences in perception of the impact of a mastectomy on Affection would not be related to the differences in perception the dyads experienced in Resolve. The null hypothesis was accepted. The alpha coefficient for Affection was .78248. The alpha coefficient for Resolve was .65478. Thus suggesting each component is measuring a unique dimension of family functioning.

The items measuring Affection were concerned with the dyad's perceptions of loss of sexual interest, amount of attention being paid to one another, physical attraction to one another, and the ability to show one cares about the other. The low relationship between the discrepancy scores of Affection and Resolve implies that differences in perception of these items and differences in perception of the items measuring Resolve (time for family activities, helping with household responsibilities, feeling responsible for the well being of one another) are not related. Therefore, when a dyad is having problems in the area of Affection they may not be having problems in the area of Resolve.

In summary, the relationships between the discrepancy scores of Partnership and Affection, Partnership and Resolve, Growth and Affection, and Growth and Resolve were found to be statistically significant. Although the alpha coefficients for each component were fairly high it is necessary to conduct further research to demonstrate the uniqueness of each dimension of the family APGAR components.

Extraneous Variables

Health Perception

The Pearson Product Moment correlations between the absolute discrepancy scores of Adaptation, Partnership, Growth, Affection, and Resolve and the health perception scales of current health, health outlook, and health worry/ concern were not statistically significant. Similarly the sign discrepancy scores of the APGAR components were not significantly related to the health perception components. The lack of relationship between the variables indicates that the woman's perception of her health is not related to the differences the marital dyad perceives in family functioning. This low relationship implies that although the woman may perceive herself as "unhealthy" this perception would not be related to a large difference in the marital dyad's perception of individual APGAR components, which may be expected since they are separate parameters.

Perhaps because the APGAR measured differences in perception among the variables a significant relationship was not found. Implications for future research may be to correlate the health perception scales with a family functioning instrument that actually classifies individuals on a low, medium, or high level of functioning. It could then be determined if a woman who scored low on health perception would similarly score low on a family functioning instrument. These women would most likely be unable to continue to

perform routine household responsibilities, view the crisis of a mastectomy as very severe, have difficulties in sexual functioning, and be unable to participate in the usual social activities. It may also be interesting to determine the husband's perception of his wife's health and the relationship of his perception to level of family functioning and how his perception of wife's health correlates with the wife's perception. It could further be argued that in a larger sample significant results may have been found in the variables. A further implication is that understanding health perception cannot be translated to knowing the impact of a specific health problem (mastectomy) on a client's life (family functioning).

Family Developmental Level

The family developmental levels were categorized and differences in APGAR scores were assessed through an analysis of variance. There were no significant differences found. This would imply that the level of family development was not related to the differences the marital dyad perceived in the five components. One could argue that the sample was too small to be able to demonstrate any differences among the groups of developmental levels. The sample consisted of a majority of women (18) who were above the age of 40. There is a need to further reevaluate the relationship between developmental stage and the perceived impact of a mastectomy on family functioning.

Adjuvant Therapy

The different treatments for breast cancer were categorized and differences in APGAR scores were assessed through an analysis of variance. No significant differences were found. This would suggest that there was no difference among the women who were on chemotherapy or radiation, those women who were not on adjuvant therapy but had plans for treatment, and those women who had no plans for treatment in relationship to the APGAR discrepancy scores. Similar to the insignificant relationship between developmental level and APGAR discrepancy scores the sample size may have been too small to determine the differences among the groups utilizing different treatments. Further research needs to be conducted in order to examine if there are differences with a larger sample of women. It would seem that the side effects that can occur from chemotherapy would influence the family functioning components at some stages of treatment. In addition, the women who are utilizing adjuvant treatment may have a greater fear of death or metastasis which may also affect the family functioning components. On the other hand the woman receiving adjuvant therapy may have hope that the treatment may work and have a positive perspective of family functioning.

Nursing Implications for Practice

The purpose of this study was to determine the marital dyad's perception of the impact of a mastectomy on

family functioning. In order to measure the dyad's perception of the impact of a mastectomy on family functioning the differences in their scores on the family functioning instrument were computed. The results indicated that a total of five dyads out of the 20 had differences in perception among the five components of the family APGAR. These results have several implications for nursing practice. Although the study focused upon the time frame of eight to sixteen weeks post-surgery, the results of the literature review had implications for nursing practice prior to and after the mastectomy.

Nursing is in a unique position to provide support, guidance, and counseling to these women and their families. The differences in perception that may occur between the dyad may hinder functioning at an optimum level. Problem-solving may not be able to take place until the concerns of the individuals are open between them. For example, if a problem existed for one spouse on loss of sexual interest or pleasure but the other spouse was unaware of the problem, solutions could not be found until both individuals perceived the problem and were willing to begin working on it.

Because the family, especially the husband, is the primary support system available to individuals, nursing needs to mobilize this support system for the women facing the crisis of a mastectomy. Quint (1963) pointed out that one of the reasons women experienced difficulty in family relationships post-surgery often occurred because the family

was made impotent by the crisis to provide support. Family involvement in helping the woman cope with a mastectomy must begin at the onset of discovering the tumor, whether it is benign or malignant.

Nursing practice occurs in numerous settings and therefore the nurses practicing in both primary care settings and hospitals can facilitate the involvement of the family in helping the woman deal with the loss of the breast. The nurses practicing in primary care settings can determine how serious the woman perceives the implications of breast cancer at the time of discovery of the lump. In addition, the nurse should seek to determine the woman's perception of how her husband will respond and what additional support systems are available to them. It is imperative that the nurse practicing in the primary care setting have standard follow-up procedures on women in whom a tumor has been discovered. Follow-up should occur during hospitalization to determine the results of the biopsy and following hospitalization to assess how the woman and her family are coping and what needs the family has at such a critical time. If denial is occurring at this time it may be indicative that denial will occur after the loss of the breast.

There are numerous implications for nursing practice during the hospitalization of the women who have experienced a mastectomy. In addition to the routine standard nursing care provided at this time the nurse must assess both the woman's and her husband's reaction to the potential loss of

the breast. If the husband is unable to provide support at this time alternatives should be sought to help both partners work through the crisis. Careful explanations about the surgery will need to be given to both partners. In addition, preventive counseling may need to begin at this time. It may be suggested to the dyad to take some time to discuss their fears and concerns about the surgery and what may happen after the surgery.

The overwhelming amount of factors the dyad must deal with post-surgery have implications for nursing intervention at this time. Perhaps the husband will need help in knowing how to support his wife at this time. The nurse needs to emphasize the need for his presence, touching, and being able to listen to his wife. The husband may need support at this time. Assessment of additional family support systems, such as the extended family, needs to be taken into consideration. If there are children they will also need careful explanations at this time, in addition to a way to ventilate their feelings. Because it is likely the husband will be the primary caretaker at this time he needs to be sure of how the children are responding to their mother's surgery. It may not be unusual for discipline or school problems to arise at this time. The way the family is coping at this time may facilitate or hinder coping in later periods.

During the hospitalization the woman's and husband's feelings concerning the loss of the breast need to be

explored. Thomas (1978) indicated at this time anxieties regarding reoccurrence and death, pain, dressings, and disfigurement are likely to occur for the woman. This may be a time to explore with the dyad how crises have been dealt with previously and what strategies were successful or unsuccessful. It is imperative that the dyad keep informed of each other's perceptions of the crisis of the mastectomy. It is also important that both husband and wife are given the same information regarding the surgery and future outlook. The nurse will need to provide anticipatory guidance to both the husband and the wife regarding sexual functioning, the need for exercises, possible complications that could occur, follow-up care provided by the surgeon, the approximate time that the woman will be able to return to her usual activities, and if possible, follow-up nursing care.

In addition, counseling should include a discussion on how the dyad has dealt with the crisis of a mastectomy thus far and possible further areas that may need to be explored. The wife needs to know how the husband perceives what is happening to them. Referral to a counselor should be made available to the couple.

The period in which the woman returns home from the hospital was the time frame for this study. It is a time in which there is the potential for the woman to be relatively left alone as the rest of the family returns to their usual activities. Nursing intervention should continue to occur at this time. Although the literature indicated that

the majority of women after one year are coping fairly well (Shottenfeld & Robbins, 1970; Morris, 1979; Morris et al., 1977; Jamison, 1978) it is unknown what facilitates the coping process or when resolving the loss of a breast occurs. Therefore, it would seem the nurse practicing in the primary care facility is the ideal intervenor during this first year post-surgery.

There are numerous nursing implications for this time period. Assessment needs to determine if the woman has returned to her normal roles and functions (e.g., work, household activities, social activities, sexual functioning) and if the husband has resumed to his normal roles and functions within the family. Perhaps one nursing intervention would include administering the family functioning instrument to both the wife and the husband at different time intervals post-mastectomy. At that time the nurse could review with the dyad their similar and different perceptions of how they were functioning as a family. The dyad's awareness of the different perceptions in each APGAR component would facilitate goals with this couple to begin problem-solving and identifying potential solutions. In addition, since the health perception instrument was found not to be related to family functioning, this tool would need to be included as an assessment tool. The SCL-90 should also be utilized as a separate assessment tool because there was no relationship found between an increase in anxiety/depression scores and an increase in family functioning discrepancy scores.

Although the sample size was small in this study for determining the results, the data would indicate that if differences in perception of Partnership were found between the couple the nurse would also want to determine the differences in perception of Affection and Resolve for this couple. Similarly, if differences in perception were found in Growth between the couple the nurse would also want to determine the extent of differences in perception of Resolve and Affection.

Although the study did not find a relationship between the use of adjuvant treatment and the family developmental level, the effect these variables have upon family functioning do need to be taken into consideration. The use of adjuvant treatment usually necessitates further referral from the surgeon to an oncologist. This referral should also include a nurse to nurse referral from the nurse in the primary care setting to the nurse in the oncology setting. At this time the husband and wife should be allowed to explore their feelings about the need for adjuvant treatment. The nurse will need to provide anticipatory guidance regarding the possible side effects, especially, that fatigue will occur. The dyad can then plan for periods of rest for the woman and relief of other responsibilities.

The developmental stage of the family will need to be accounted for with each dyad. The younger family may have greater concerns for the care-taking of children or the

sexual implications of a mastectomy. In addition, the younger family will have had fewer experiences in dealing with crises and may need more help in this area. On the other hand, the elderly family may already be experiencing losses (e.g., physical, loss of ability to perform the usual functions, children) and the additional loss of the breast may enhance grieving. The woman that is launching her children may be working through the physical menopausal changes and the loss of the breast may further hinder her adaptation to these physiological changes. The pertinent tasks to each family development stage must be acknowledged when intervening with families who are experiencing a crisis such as a mastectomy. The length of marriage may also affect perception of the impact of a mastectomy on family functioning.

In addition to the interventions described above as a result of this study the researcher also had experiences on the data collection phase that have implications for nursing practice. The researcher had the opportunity to informally talk to women who have experienced a mastectomy when telephoning to determine if they would agree to participate in the study. Some of the women were found to have the need to ventilate their concerns and the lack of support available to them. One woman cried as she indicated she felt so alone in dealing with this crisis. This experience further substantiates the researcher's belief that ongoing intervention must occur post-hospitalization for the

families facing the crisis of a mastectomy, if only to allow the woman to express her feelings and concerns.

On the other hand, several of the women who were telephoned to participate in the study indicated that they were not experiencing any problems and that the mastectomy has not changed their life in any way. Perhaps these women were denying the implications of the mastectomy or they had a support system that rapidly facilitated them through the grieving process. For these women nursing intervention would include providing an opportunity to explore feelings that were too threatening to discuss or just letting them know help was available if needed.

In summary, nursing interventions for practice included interventions from the onset of the discovery of tumor throughout the extended post-operative period. Involving the husband throughout the care of this woman was also emphasized as it may facilitate coping in later periods. The use of the family functioning instrument to determine the differences in perception of the marital dyad of the impact of the mastectomy on family functioning was explored. The need for follow-up nursing care between the primary care nurse and the nurse working in a hospital setting was emphasized. In addition, the importance of having a primary care nurse follow-up on the family post-surgery was discussed. Finally, it cannot be stressed enough that the nurse is in a unique position to contribute to the care of all family members involved in a mastectomy.

Implications for Future Research

There are several implications for future research derived from this study. Although there were significant differences found among some dyads for the APGAR components the researcher believes that through altering the methodology to a different time there may be a larger number of dyads found to have significant discrepancy scores. In addition, research on the impact of a mastectomy on family functioning could be further enhanced through a nursing intervention study. The contributions that nursing makes to families who have experienced a crisis such as a mastectomy needs to be documented across family developmental stages and time periods after surgery. Furthermore, this researcher believes that perhaps during the time data was collected (eight to sixteen weeks post-surgery) that some of the women may have been denying the implications of a mastectomy. In addition, this researcher believes that the extraneous variables, health perception, use of adjuvant therapy, and family development stage do influence the marital dyad's perception of the impact of a mastectomy on family functioning. The following suggestions are proposed for future research investigations. These suggestions result from the researcher's experience in studying the impact of a mastectomy on family functioning.

1. A larger sample size of marital dyads in whom the woman has experienced a mastectomy is needed. The

larger sample size would provide a greater significance to the results of the study.

2. An open-ended interview with both partners of the marital dyad should be conducted in the time frame of eight to sixteen weeks post-surgery. The open-ended interview would allow the dyad to express the concerns that are unique to them. The results of the interview could then be utilized to provide a more refined family functioning instrument. Perhaps the interviewer would be able to determine symptoms of denial among the subjects.
3. The extraneous variables, health perception, family developmental stage, and use of adjuvant treatment should continue to be explored with a larger sample size.
4. There should be a further investigation into the discrepancy scores of the dyads. The differences among the dyads who experience small discrepancy scores and large discrepancy scores should be explored in depth.
5. A nursing intervention study should be conducted where the intervention would take place prior to and subsequent to surgery. The family functioning instrument could then be administered eight to sixteen weeks post-surgery. The interventions may include the following:

(a) Including the husband in preoperative and post-operative counseling.

(b) Providing nursing follow-up care to the families in the home within one week of returning home from the hospital.

6. A support group intervention study could be conducted subsequent to hospitalization. Perhaps at approximately eight weeks post-surgery the support group could meet which would include both husbands and wives. The family functioning instrument would be administered prior and subsequent to the support group to determine the differences that occurred as a result of participation.

7. A longitudinal study needs to be conducted to investigate how the marital dyad's perception of the impact of a mastectomy on family functioning changes at two months, six months, and one year post-surgery to study the natural course and to examine changes over time from the impact of a mastectomy.

8. The husband's perception of his wife's health may need to be investigated in relation to the discrepancy scores of the marital dyads. The health perception scales, current health, health outlook, and health worry/concern could be administered to the husbands in order to determine their perception of their spouse's health.

9. An additional validity measure tool, other than the SCL-90 needs to be administered to the dyad. Perhaps a family functioning scale, such as the one developed by Pless and Satterwhite (1973) could be utilized.
10. Although it would be difficult to classify families on a scale of low, medium, and high level of family functioning it may be necessary to develop an instrument that could provide a more refined measure of where problems are occurring within families. An instrument of this type may be more useful to conducting research in the practice setting.
11. The family APGAR would also need to be refined so it could be used as an assessment tool in practice settings.
12. The family APGAR could also be revised to be utilized on other study populations with chronic illness to determine similarities of response.

In summary, the suggestions for future research included an open-ended interview with families who have experienced the crisis of a mastectomy in order to provide a basis for refining the family functioning instrument, conducting both longitudinal and intervention studies, continue to study the extraneous variables in relation to the marital dyad's perception of the impact of a mastectomy, and include a larger sample size.

Implications for Education

The results of this study have several implications for nursing education. Although the curriculum of nursing schools usually includes family content, the area of family in managing a crisis should be further extended. The needs of family facing a crisis, particularly families who have a member with cancer, are tremendous. Nursing interventions for these families should be explored with students. Perhaps nursing care standards for the family with a member who has breast cancer could be developed in the educational system. In addition, an area that has significance for nursing education is the importance of clients' perceptions of their health, family situations, barriers to receiving health care, and benefits of control of their disease.

The results of this study indicated that among 20 dyads, five were found to have extreme discrepancy scores in perception of family function. Students, both graduate and undergraduate, need help in developing interventions to deal with discrepancies in perceptions between family members.

An area that has implications for nursing education is the need to understand and utilize the process of nurse to nurse referrals. Nurses practicing in primary care settings need to begin initiating nurse to nurse referrals to nurses working in the hospital setting to maintain continuity of care and vice versa. Nurses in the hospital setting need to initiate referrals to nurses in the primary care setting.

In addition to staff development on utilizing nurse to nurse referrals, inservice education should also include the use of research findings from this study. The family functioning instrument could be explained to staff members and utilized in practice settings to determine the differences in perception of family functioning marital dyads experience when a family member has cancer. It would also be beneficial to have the results of this study published in a journal to facilitate professional growth among nurses who work with families in whom a member has breast cancer especially stressing the importance of attending to perceptions of the husband.

In summary, implications for nursing education included providing a strong curriculum in helping families manage the crisis of cancer, developing standards of care for families experiencing cancer, and helping students to identify nursing interventions for clients who have inaccurate perceptions of their health and/or family situations. Implications for nursing inservice education were also discussed which included utilizing nurse to nurse referrals and utilizing the family APGAR instrument in nursing practice.

Summary

Chapter VI provided a summary and interpretation of the research finding in relation to the individual hypothesis and the extraneous variables. Nursing implications for practice, research, and education were discussed.

APPENDICES

APPENDIX A

FAMILY FUNCTIONING SECTION FOR BOTH HUSBAND AND WIFE

APPENDIX A

FAMILY FUNCTIONING SECTION FOR BOTH HUSBAND AND WIFE

(1) Site __
(2-4) Pt. No. __ __ __
(5) Card No. __
(6-9) Date __/__

Family Functioning Section
(Wife completes)

Below is a list of statements related to how you and your spouse are functioning since the mastectomy. Please answer all of the statements as honestly as you can. Work quickly, not spending too much time on any one question. There are no right or wrong answers.

Please answer all questions.

Please indicate the extent of agreement or disagreement with the statement by circling the appropriate category as:

Strongly agree
Moderately agree
Slightly agree
Undecided
Slightly disagree
Moderately disagree
Strongly disagree

1. I show more affection toward my husband since the mastectomy

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(10)

2. Since the mastectomy my husband has not participated in his usual social activities.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(11)

3. Compared to other couples we seldom quarrel.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(12)

4. It is difficult for my husband to make time for family activities since the mastectomy.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(13)

5. I do very little to help with household responsibilities since the mastectomy.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(14)

6. I am supportive to my husband since the mastectomy.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(15)

7. Since the mastectomy I am feeling low in energy (slowed down).

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(16)

8. I can talk openly to my husband about things that bother me.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(17)

9. Since the mastectomy I have been crying easily.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(18)

10. I enjoy spending some spare time doing things different than my husband.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(19)

11. Since the mastectomy I have feelings of being trapped or caught.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(20)

12. My husband shows more affection toward me since the mastectomy.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(21)

13. Since the mastectomy I have been blaming myself for things.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(22)

14. I feel responsible for the well being of my husband.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(23)

15. Since the mastectomy I am feeling lonely.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(24)

16. On matters of common concern, I feel my husband and I solve problems together.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(25)

17. Since the mastectomy I am feeling blue.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(26)

18. My husband talks openly with me about things that bother him.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(27)

19. Since the mastectomy I am worrying too much about things.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(28)

20. I feel the experience of the mastectomy will help me cope with future stressful situations.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(29)

21. Since the mastectomy I am feeling no interest in things.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(30)

22. I am physically attracted to my husband.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(31)

23. Since the mastectomy I am feeling hopeless about the future.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(32)

24. My husband feels committed toward me.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(33)

25. Since the mastectomy I am feeling everything is an effort.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(34)

26. The mastectomy is the worst thing that has ever happened to me.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(35)

27. I take my husband's wishes into consideration when major decisions are made.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(36)

28. Since the mastectomy I have feelings of worthlessness.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(37)

29. Since the mastectomy my husband and I are going out for entertainment less often.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(38)

30. My husband is physically attracted toward me.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(39)

31. Since the mastectomy I have been bothered by feelings of nervousness or shakiness inside.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(40)

32. It is difficult for me to make time for family activities since the mastectomy.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(41)

33. My husband is able to support me during rough times.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(42)

34. Since the mastectomy I have been bothered by trembling.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree

35. I am dissatisfied with the way my spouse shares time with me.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(44)

36. Since the mastectomy I have been bothered by being suddenly scared for no reason.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(45)

37. Since the mastectomy I haven't participated in my usual social activities.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(46)

38. I let my husband know that I care about him.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(47)

39. Since the mastectomy I have been bothered by feeling fearful.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(48)

40. My mastectomy is the worst thing that has ever happened to my husband.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(49)

41. Since the mastectomy I have felt my heart pounding or racing.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(50)

42. My husband shows me that he cares about me.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(51)

43. Since the mastectomy I have been feeling tense or keyed up.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(52)

44. My husband does very little to help with household responsibilities.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(53)

45. I feel we need to call upon professional people (doctor, nurse, psychologist, social worker) to help us cope with the mastectomy.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(54)

46. My husband feels responsible for my well being.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(55)

47. Since the mastectomy I have had spells of terror or panic.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(56)

48. Since the mastectomy my husband has been feeling depressed.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(57)

49. I feel committed to my husband.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(58)

50. Since the mastectomy I have been feeling so restless I can't sit still.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(59)

51. My husband enjoys spending some spare time doing things differently than me.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(60)

52. My husband is paying less attention toward me since the mastectomy.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(61)

53. Since the mastectomy I have the feeling that familiar things are strange or unreal.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(62)

54. My husband takes my wishes into consideration when major decisions are made.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(63)

55. I have a loss of sexual interest or pleasure since the mastectomy.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(64)

56. Changes since the mastectomy are easy for my husband to deal with.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(65)

57. Since the mastectomy I am feeling pushed to get things done.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(66)

58. My husband is dissatisfied with the way I spend time with him.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(67)

59. My husband frequently lets me down.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(68)

60. Changes since the mastectomy are easy for me to deal with.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(69)

61. My husband has a loss of sexual interest or pleasure.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(70)

62. Since the mastectomy I have been feeling depressed.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(71)

63. It is difficult for my husband to discuss his feelings about breast cancer with me.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(72)

64. I feel I frequently let my husband down.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(73)

65. I feel we have enough money to meet our needs.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(74)

66. I am paying less attention to my husband since the mastectomy.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(75)

67. My husband feels we need to call upon professional people (doctor, nurse, psychologist, social worker) to help us cope with the mastectomy.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(76)

68. It is difficult to discuss my feelings about breast cancer with my husband.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(77)

69. My husband does very little to help with household responsibilities since the mastectomy.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(78)

70. I feel the experience of the mastectomy will help my husband cope with future stressful situations.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(79)

71. I feel committed to my husband.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(80)

(1) Site __
(2-4) Pt. No. __ __ __
(5) Card No. __
(6-9) Date __/__

Family Functioning Section
(Husband completes)

Below is a list of statements related to how you and your spouse are functioning since the mastectomy. Please answer all of the statements as honestly as you can. Work quickly, not spending too much time on any one question. There are no right or wrong answers.

Please answer all questions.

Please indicate the extent of agreement or disagreement with the statement by circling the appropriate category as:

Strongly agree
Moderately agree
Slightly agree
Undecided
Slightly disagree
Moderately disagree
Strongly disagree

1. I show more affection toward my wife since the mastectomy.

Strongly Agree | Moderately Agree | Slightly Agree | Undecided | Slightly Disagree | Moderately Disagree | Strongly Disagree (10)

2. Since the mastectomy my wife has not participated in her usual social activities.

Strongly Agree | Moderately Agree | Slightly Agree | Undecided | Slightly Disagree | Moderately Disagree | Strongly Disagree (11)

3. Compared to other couples we seldom quarrel.

Strongly Agree | Moderately Agree | Slightly Agree | Undecided | Slightly Disagree | Moderately Disagree | Strongly Disagree (12)

4. It is difficult for my wife to make time for family activities since the mastectomy.

Strongly Agree | Moderately Agree | Slightly Agree | Undecided | Slightly Disagree | Moderately Disagree | Strongly Disagree (13)

5. I do very little to help with household responsibilities since the mastectomy.

Strongly Agree | Moderately Agree | Slightly Agree | Undecided | Slightly Disagree | Moderately Disagree | Strongly Disagree (14)

6. I am supportive to my wife since the mastectomy.

Strongly Agree | Moderately Agree | Slightly Agree | Undecided | Slightly Disagree | Moderately Disagree | Strongly Disagree (15)

7. Since the mastectomy I am feeling low in energy (slowed down).

Strongly Agree | Moderately Agree | Slightly Agree | Undecided | Slightly Disagree | Moderately Disagree | Strongly Disagree (16)

8. I can talk openly to my wife about things that bother me.

Strongly Agree | Moderately Agree | Slightly Agree | Undecided | Slightly Disagree | Moderately Disagree | Strongly Disagree (17)

9. Since the mastectomy I have been upset easily.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(18)

10. I enjoy spending some spare time doing things different than my wife.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(19)

11. Since the mastectomy I have feelings of being trapped or caught.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(20)

12. My wife shows more affection toward me since the mastectomy.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(21)

13. Since the mastectomy I have been blaming myself for things.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(22)

14. I feel responsible for the well being of my wife.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(23)

15. Since the mastectomy I am feeling lonely.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(24)

16. On matters of common concern, I feel my wife and I solve problems together.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(25)

17. Since the mastectomy I am feeling blue.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(26)

18. My wife talks openly with me about things that bother her.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(27)

19. Since the mastectomy I am worrying too much about things.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(28)

20. I feel the experience of the mastectomy will help me cope with future stressful situations.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(29)

21. Since the mastectomy I am feeling no interest in things.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(30)

22. I am physically attracted to my wife.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(31)

23. Since the mastectomy I am feeling hopeless about the fiture.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(32)

24. My wife feels committed toward me.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(33)

25. Since the mastectomy I am feeling everything is an effort.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(34)

26. The mastectomy is the worst thing that has ever happened to me.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(35)

27. I take my wife's wishes into consideration when major decisions are made.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(36)

28. Since the mastectomy I have feelings of worthlessness.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(37)

29. Since the mastectomy my wife and I are going out for entertainment less often.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(38)

30. My wife is physically attracted toward me.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(39)

31. Since the mastectomy I have been bothered by feelings of nervousness or shakiness inside.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(40)

32. It is difficult for me to make time for family activities since the mastectomy.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(41)

33. My wife is able to support me during rough times.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(42)

34. Since the mastectomy I have been bothered by trembling.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(43)

35. I am dissatisfied with the way my spouse shares time with me.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(44)

36. Since the mastectomy I have been bothered by being suddenly scared for no reason.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(45)

37. Since the mastectomy I haven't participated in my usual social activities.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(46)

38. I let my wife know that I care about her.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(47)

39. Since the mastectomy I have been bothered by feeling fearful.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(48)

40. The mastectomy is the worst thing that has ever happened to my wife.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(49)

41. Since the mastectomy I have felt my heart pounding or racing.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(50)

42. My wife shows me that she cares about me.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(51)

43. Since the mastectomy I have been feeling tense or keyed up.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(52)

44. My wife does very little to help with household responsibilities.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(53)

45. I feel we need to call upon professional people (doctor, nurse, psychologist, social worker) to help us cope with the mastectomy.

Strongly Agrew	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(54)

46. My wife feels responsible for my well being.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(55)

47. Since the mastectomy I have had spells of terror or panic.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(56)

48. Since the mastectomy my wife has been feeling depressed.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(57)

49. I feel committed to my wife.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(58)

50. Since the mastectomy I have been feeling so restless I can't sit still.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree

51. My wife enjoys spending some spare time doing things differently than me.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(60)

52. My wife is paying less attention toward me since the mastectomy.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(61)

53. Since the mastectomy I have the feeling that familiar things are strange or unreal.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(62)

54. My wife takes my wishes into consideration when major decisions are made.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(63)

55. I have a loss of sexual interest or pleasure since the mastectomy.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(64)

56. Changes since the mastectomy are easy for my wife to deal with.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(65)

57. Since the mastectomy I am feeling pushed to get things done.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(66)

58. My wife is dissatisfied with the way I spend Time with her.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(67)

59. My wife frequently lets me down.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(68)

60. Changes since the mastectomy are easy for me to deal with.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(69)

61. My wife has a loss of sexual interest or pleasure.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(70)

62. Since the mastectomy I have been feeling depressed.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(71)

63. It is difficult for my wife to discuss her feelings about breast cancer with me.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(72)

64. I feel I frequently let my wife down.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(73)

65. I feel we have enough money to meet our needs.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(74)

66. I am paying less attention to my wife since the mastectomy.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(75)

67. My wife feels we need to call upon professional people (doctor, nurse psychologist, social worker) to help us cope with the mastectomy.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(76)

68. It is difficult to discuss my feelings about breast cancer with my wife.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(77)

69. My wife does very little to ehlp with household responsibilities since the mastectomy.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(78)

70. I feel the experience of the mastectomy will help my wife cope with future stressful situations.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(79)

71. I feel committed to my wife.

Strongly Agree	Moderately Agree	Slightly Agree	Undecided	Slightly Disagree	Moderately Disagree	Strongly Disagree	(80)

APPENDIX B

ITEMS DEVELOPED TO MEASURE PERCEPTION OF FAMILY FUNCTIONING UTILIZING THE APGAR COMPONENTS

APPENDIX B

ITEMS DEVELOPED TO MEASURE PERCEPTION OF FAMILY FUNCTIONING UTILIZING THE APGAR COMPONENTS

Adaptation

Adaptation is the utilization of intra and extra familial resources for problem solving when family equilibrium is stressed during a crisis.

1. The mastectomy is the worst thing that has ever happened to me.
2. The mastectomy is the worst thing that has ever happened to my husband.
3. I am supportive to my husband since the mastectomy.
4. My husband is able to support me during rough times.
5. Since the mastectomy I have been feeling depressed.
6. Since the mastectomy my husband has been feeling depressed.
7. On matters of common concern, I feel my husband and I solve problems together.
8. I feel we need to call upon professional people (doctor, nurse, psychologist, social worker) to help us cope with the mastectomy.
9. My husband feels we need to call upon professional people (doctor, nurse, psychologist, social worker) to help us cope with the mastectomy.

Partnership

Partnership is the sharing of decision making and nurturing responsibilities by family members.

1. It is difficult to openly discuss my feelings about breast cancer with my spouse.

2. It is difficult for my husband to openly discuss his feelings about breast cancer with me.

3. I am dissatisfied with the way my husband shares time with me.

4. My husband is dissatisfied with the way I spend time with him.

5. I can talk openly to my husband about things that bother me.

6. My husband talks openly with me about things that bother him.

7. I take my husband's wishes into consideration when major decisions are made.

8. My husband takes my wishes into consideration when major decisions are made.

9. I feel I frequently let my husband down.

10. My husband frequently lets me down.

11. Compared to other couples we seldom quarrel.

Growth

Growth is the physical and emotional maturation and self-fulfillment that is achieved by family members through mutual support and guidance.

1. I enjoy spending some spare time doing things different than my husband.

2. My husband enjoys spending some spare time doing things differently than me.

3. Changes since the mastectomy are easy for me to deal with.

4. Changes since the mastectomy are easy for my husband to deal with.

5. Since the mastectomy I haven't participated in my usual social activities.

6. Since the mastectomy my husband has not participated in his usual social activities.

7. Since the mastectomy my husband and I are going out for entertainment less often.

8. I feel the experience of the mastectomy will help me cope with future stressful situations.

9. I feel the experience of the mastectomy will help my husband cope with future stressful situations.

Affection

1. I show more affection toward my husband since the mastectomy.

2. My husband shows more affection toward me since the mastectomy.

3. I am paying less attention to my husband since the mastectomy.

4. My husband is paying less attention toward me since the mastectomy.

5. I have a loss of sexual interest or pleasure since the mastectomy.

6. My husband has a loss of sexual interest or pleasure.

7. I am physically attracted to my husband.

8. My husband is physically attracted toward me.

9. I let my husband know that I care about him/her.

10. My husband shows me that he cares about me.

Resolve

Resolve is the commitment to devote time to other members of the family for physical and emotional nurturing. It also usually involves a decision to share wealth and space.

1. I feel responsible for the well being of my husband.

2. My husband feels responsible for my well being.

3. It is difficult for me to make time for family activities since the mastectomy.

4. It is difficult for my husband to make time for family activities since the mastectomy.

5. I feel committed to my husband.

6. My husband feels committed toward me.

7. I feel we have enough money to meet our needs.

8. I do very little to help with the household responsibilities since the mastectomy.

9. My husband does very little to help with household responsibilities.

APPENDIX C

ANXIETY AND DEPRESSION SCALES TAKEN FROM THE SCL-90

APPENDIX C

ANXIETY AND DEPRESSION SCALES TAKEN

FROM THE SCL-90

Depression

1. Since the mastectomy I am feeling low in energy or slowed down.
2. Since the mastectomy I have been crying easily (female).
3. Since the mastectomy I have been upset easily.
4. Since the mastectomy I have feelings of being trapped or caught.
5. Since the mastectomy I have been blaming myself for things.
6. Since the mastectomy I am feeling lonely.
7. Since the mastectomy I am feeling blue.
8. Since the mastectomy I feel I am worrying too much about things.
9. Since the mastectomy I am feeling no interest in things.
10. Since the mastectomy I am feeling hopeless about the future.
11. Since the mastectomy I feel everything is an effort.
12. Since the mastectomy I have feelings of worthlessness.

Anxiety

13. Since the mastectomy I have been bothered by feelings of nervousness or shakiness inside.

14. Since the mastectomy I have been bothered by trembling.

15. Since the mastectomy I have been bothered by being suddenly scared for no reason.

16. Since the mastectomy I have been bothered by feeling fearful.

17. Since the mastectomy I have felt my heart pounding or racing.

18. Since the mastectomy I have been feeling tense or keyed up.

19. Since the mastectomy I have had spells of terror or panic.

20. Since the mastectomy I have been feeling so restless I can't sit still.

21. Since the mastectomy I have the feeling that familiar things are strange or unreal.

22. Since the mastectomy I am feeling pushed to get things done.

APPENDIX D

HEALTH PERCEPTION ITEMS ACCORDING TO THE THREE COMPONENTS, CURRENT HEALTH, HEALTH OUTLOOK, AND HEALTH WORRY/CONCERN

APPENDIX D

HEALTH PERCEPTION ITEMS ACCORDING TO THE THREE COMPONENTS, CURRENT HEALTH, HEALTH OUTLOOK, AND HEALTH WORRY/CONCERN

Current Health

According to the doctors I've seen, my health is now excellent.
I feel better now than I ever have before.
I am somewhat ill.
I'm not as healthy now as I used to be.
I'm as healthy as anybody I know.
My health is excellent.
I have been feeling bad lately.
Doctors say that I am now in poor health.
I feel about as good now as I ever have.

Health Outlook

I will probably be sick a lot in the future.
In the future, I expect to have better health than other people I know.
I expect to have a very healthy life.
I think my health will be worse in the future than it is now.

Health Worry/Concern

I never worry about my health.
I worry about my health more than other people worry about their health.
My health is a concern in my life.
Others seem more concerned about their health than I am about mine.

APPENDIX E

HEALTH PERCEPTION SECTION

APPENDIX E

HEALTH PERCEPTION SECTION

(1) Site __
(2-4) Pt. No. __ __ __
(5) Card No. __
(6-9) Date __/__

Below is a list of statements concerning how you feel about your health today. Please read each of the following statements, and then circle one of the answers to indicate whether the statement is true or false for you.

There are no right or wrong answers.

If a statement is definitely true for you, then circle Definitely True.
If it is mostly true for you, then circle Mostly True.
If you don't know whether it is true or false, then circle Don't Know.
If it is mostly false for you, circle Mostly False.
If it is definitely false for you, circle Definitely False.

Some of the statements may look or read like others, but each statement is different, and should be rated by itself.

1. According to the doctors I've seen, my health is now excellent.

Definitely True	Mostly True	Don't Know	Mostly False	Definitely False	(10)

2. I will probably be sick a lot in the future.

Definitely True	Mostly True	Don't Know	Mostly False	Definitely False	(11)

3. I never worry about my health.

Definitely True	Mostly True	Don't Know	Mostly False	Definitely False	(12)

4. In the future, I expect to have better health than other people I know.

Definitely True	Mostly True	Don't Know	Mostly False	Definitely False	(13)

5. I feel better now than I ever have before.

Definitely True	Mostly True	Don't Know	Mostly False	Definitely False	(14)

6. I am somewhat ill.

Definitely True	Mostly True	Don't Know	Mostly False	Definitely False	(15)

7. I'm not as healthy now as I used to be.

Definitely True	Mostly True	Don't Know	Mostly False	Definitely False	(16)

8. I worry about my health more than other people worry about their health.

Definitely True	Mostly True	Don't Know	Mostly False	Definitely False	(17)

9. I'm as healthy as anybody I know.

Definitely True	Mostly True	Don't Know	Mostly False	Definitely False	(18)

10. I think my health will be worse in the future than it is now.

Definitely True	Mostly True	Don't Know	Mostly False	Definitely False	(19)

11. Others seem more concerned about their health than I am about mine.

Definitely True	Mostly True	Don't Know	Mostly False	Definitely False	(20)

12. My health is excellent.

Definitely True	Mostly True	Don't Know	Mostly False	Definitely False	(21)

13. I expect to have a very healthy life.

Definitely True	Mostly True	Don't Know	Mostly False	Definitely False	(22)

14. My health is a concern in my life.

Definitely True	Mostly True	Don't Know	Mostly False	Definitely False	(23)

15. I have been feeling bad lately.

Definitely True	Mostly True	Don't Know	Mostly False	Definitely False	(24)

16. Doctors say I am now in poor health.

Definitely True	Mostly True	Don't Know	Mostly False	Definitely False	(25)

17. I feel about as good now as I ever have.

Definitely True	Mostly True	Don't Know	Mostly False	Definitely False	(26)

APPENDIX F

SOCIODEMOGRAPHIC SECTION

APPENDIX F

SOCIODEMOGRAPHIC SECTION

(1) Site __
(2-4) Pt. No. __ __ __
(5) Card No. __
(6-10) Date ___/___

Patient Encounter Form

1. Age of wife _____ (11, 12)

2. Age of husband _____ (13, 14)

3. Number of children _____ (15, 16)

4. List ages of children

_____

_____

_____

_____

_____

5. Ages of children living at home (17)

_____

_____

_____

6. Have you had a previous history of breast cancer?

Yes_____ No _____ (18)
1 2

If yes, which breast was involved?

right_____ left_____ (19)
1 2

7. Which breast is involved at this time?

right_____ left_____ both_____ (20)
1 2 3

8. Which type of surgical procedure did you have?

Simple mastectomy_____ (21)
1

Modified mastectomy_____
2

Radical mastectomy_____
3

Other (specify) _____

9. If there a family history of breast cancer?

Yes_____ No_____ (22)
1 2

If yes, specify: (23, 24, 25)

Mother_____
1

Maternal grandmother_____
2

Paternal grandmother_____
3

Sister_____
4

Daughter_____
5

Cousin_____
6

Other_____
7

10. Have you had a previous history of other cancer? (26)

Yes_____ No_____
1 2

If yes, please explain_____

_____

11. Is there a family history of another type of cancer? (27)

Yes_____ No_____
1 2

12. Do you have any other current medical problems such as diabetes, hypertension, arthritis? (28)

Yes_____ No_____
1 2

If yes, please explain_____

_____

13. Have you participated in Reach to Recovery? (29)

Yes_____ No_____
1 2

14. How many years have you been married? _____ (30, 31)

15. Is this the first marriage for both partners? (32)

Yes_____ No_____
1 2

If no, please explain_____

16. Are you employed outside of your home? (33)

Yes_____ No_____
1 2

If yes, please list type of job.

_____

17. Is your husband employed outside of the home? (34)

Yes_____ No_____
1 2

If yes, please list type of job.

_____

18. Do you have any of the following treatments? (please check the appropriate category(s)) (35, 36)

chemotherapy_____ 1

radiation_____ 2

no treatments at this time but will have in the next few months_____ 3

no plans for chemotherapy or radiation_____ 4

other_____ 5

If other, please specify_____

APPENDIX G

TRAINING OF ALTERNATE DATA COLLECTORS

APPENDIX G

TRAINING OF ALTERNATE DATA COLLECTORS

Due to the strict confidentiality of the Reach to Recovery Program an alternative method of identifying potential participants was utilized. The alternative data collector was provided information on:

1. The purpose of the study.
2. The overall importance of the data collection phase to the results of the study.
3. An understanding of the sensitive nature of the study.
4. An understanding of the importance of confidentiality.
5. The criteria for inclusion of subjects for the study.

The alternate data collector had a potential list of participants for the study due to her position as a Reach to Recovery coordinator in the eastern portion of Michigan. The method of identifying participants proceeded as follows:

1. A letter was written to the potential participants who met study criteria explaining the nature of the

study and what would be required of them. A stamped postcard was included in the letter in which the interested participants could mail to the alternate data collector and indicate their desire to participate in the study.

2. Those participants who mailed the questionnaire to the alternate data collector would then receive the instrument package with the stamped envelope to be returned to the investigator.

APPENDIX H

ESTABLISHED CRITERIA FOR THE MARITAL DYAD'S PARTICIPATION IN THE STUDY

APPENDIX H

ESTABLISHED CRITERIA FOR THE MARITAL DYAD'S PARTICIPATION IN THE STUDY

1. Legally married women residing in Michigan and Tennessee.
2. Age 29-75.
3. Experienced a mastectomy (simple, modified, radical) within the last eight to sixteen weeks.
4. No clinical evidence of other chronic disease such as diabetes, renal failure.
5. No evidence of psychosis, mental confusion, or recent treatment for depression--anxiety.
6. Literate.
7. Legal spouse living in the same home of woman agrees to participate in the study.

APPENDIX I

TELEPHONE INSTRUCTIONS TO RESPONDENTS

APPENDIX I

TELEPHONE INSTRUCTIONS TO RESPONDENTS

The purpose of the study will again be explained to the respondent. The sensitive nature of the study will be explained. Confidentiality will be ensured.

The telephone directions will proceed as follows:

1. Both of the respondents will be asked to sign consent forms.

2. The respondents will be asked to complete the questionnaire in its entirety.

3. The respondents will be asked not to confer when answering questions until both of them have completed answering the questionnaire in its entirety.

4. The respondent will be asked to mail the questionnaire to the researcher (in a prestamped addressed envelope) within one week after receiving the questionnaire.

5. The respondents will be asked to call the researcher or trained personnel if any questions or problems should arise as a result of completing the questionnaire. The respondents will also be told to call their physician if they would feel more comfortable.

6. The respondents will be told that written instructions will be included in the mailed packet.

7. The respondents will be told that the researcher or trained personnel will call them after three days have passed since the questionnaire was mailed.

At this time the researcher or trained personnel will elicit over the telephone any additional information that is needed to complete the encounter form.

APPENDIX J

COVER LETTER AND CONSENT FORM

APPENDIX J

COVER LETTER AND CONSENT FORM

Michigan State University
School of Nursing
Cover Letter

Dear

I have talked to you previously concerning participation in the mastectomy research study. At that time you indicated that both you and your husband would be willing to participate in this study. Enclosed is the consent form and questionnaires. The wife will have three questionnaires to complete: (1) the Mastectomy Encounter Form, (2) Beliefs About Health, and (3) Family Functioning Questionnaire in addition to a consent form. The husband will complete the consent form and the Family Functioning Questionnaire. You will both sign the same consent form. Please read each question carefully and answer each question with only one response. I ask that you do not consult with one another as it will affect the results of this study.

Patricia K. Bednarz
Family Nurse Clinician Graduate Student

Michigan State University
School of Nursing
Consent Form

Investigator: Patricia K. Bednarz, R.N., B.S.N.
Graduate Student, Family Nurse Clinician Program
School of Nursing
Michigan State University
(517) 353-9553

Dear

The study in which you are about to participate is designed to find out the way the husband and wife are functioning after the wife has experienced a mastectomy. This study is being conducted by myself as part of the requirements for a master's degree in nursing. The results of the study will be utilized to determine how nursing can help families who face the crisis of a mastectomy.

Please complete the enclosed consent forms and the questionnaires, and return in the stamped envelope provided within one week. Participation in the study should take 20-30 minutes of your time and will require you to respond to a series of questions as honestly and accurately as possible. As a result of participation in this study, you may be more aware of the problems encountered with a mastectomy which may cause stressful feelings to arise.

Additional information (age, type of surgery, perception of health, etc.) will be obtained from the wife.

Your answers will be kept in complete anonymity and no attempt will be made to identify you in any manner. You are free to withdraw at any time. Withdrawal from the study will in no way affect the care you are now receiving. Participants may call the investigator at any time should questions arise.

I will be pleased to send you a summary of the results of the study following its completion if you so desire.

Thank you for your time and cooperation.

Patricia K. Bednarz
Family Nurse Clinician Graduate Student
(517) 353-9553

I voluntarily consent to participate in this research study. I have had an opportunity to ask questions. I may change my mind before the study is completed if I choose to.

_____ _____
Signature of Female Subject Date

_____ _____
Signature of Husband Date

_____ _____
Signature of Investigator Date

APPENDIX K

ABSOLUTE AND SIGN DISCREPANCY SCORES BETWEEN INDIVIDUALS OF THE MARITAL DYAD FOR ADAPTATION

Table 17

Absolute and Sign Discrepancy Scores Between Individuals of the Marital Dyad for Adaptation

Dyad	Absolute Score	Sign Score (wife minus husband)
1	2.36498	2.36498
2	6.11630	6.11630
3	6.81603	-6.81603
4	5.37227	-5.37227
5	6.84211	-6.84211
6	4.90381	-4.90381
7	6.29426	6.29426
8	6.34263	6.34263
9	6.95399	6.95399
10	.79257	.79257
11	9.34551*	9.34551
12	.81238	-.81238
13	.50405	-.50405
14	1.13937	1.13937
15	3.30681	3.30681
16	2.38531	2.38531
17	5.48476	-5.48476
18	3.22788	-3.22788
19	8.54504	8.54504
20	6.39153	6.39153

*Significant at the .10 level.

APPENDIX L

ABSOLUTE AND SIGN DISCREPANCY SCORES BETWEEN INDIVIDUALS OF THE MARITAL DYAD FOR PARTNERSHIP

Table 18

Absolute and Sign Discrepancy Scores Between Individuals of the Marital Dyad for Partnership

Dayd	Absolute Score	Sign Score (wife minus husband)
1	7.35270	-7.35270
2	1.54765	1.54765
3	6.94931	-6.94931
4	6.25486	-6.25486
5	7.83087	-7.83087
6	15.06594	-15.06594
7	1.54306	-1.54306
8	6.10004	-6.10004
9	13.44850	-13.44850
10	14.56120	-14.56120
11	1.06629	-1.06629
12	7.68696	7.68696
13	8.38589	-8.38589
14	.14061	-.14061
15	3.00426	3.00426
16	3.67507	3.67507
17	4.86460	4.86460
18	1.09140	-1.09140
19	1.29602	1.29602
20	16.47105*	16.47105*

*Significant at the .10 level.

APPENDIX M

ABSOLUTE AND SIGN DISCREPANCY SCORES BETWEEN INDIVIDUALS OF THE MARITAL DYAD FOR GROWTH

Table 19

Absolute and Sign Discrepancy Scores Between Individuals of the Marital Dyad for Growth

Dyad	Absolute Score	Sign Score (wife minus husband)
1	3.94870	3.94870
2	2.36514	2.36514
3	3.69560	3.69560
4	5.22346	5.22346
5	7.04696	-7.04696
6	13.00910*	-13.00910*
7	.22432	-.22432
8	5.95599	-5.95599
9	6.47860	6.47860
10	3.27716	-3.27716
11	12.62534*	12.62534*
12	12.26104*	12.26104*
13	4.65093	-4.65093
14	8.90022	-8.90022
15	5.85172	5.85172
16	5.31972	5.31972
17	3.59802	-3.59802
18	.85263	-.85263
19	2.15864	2.15864
20	.86849	.86849

*Significant at the .10 level.

APPENDIX N

ABSOLUTE AND SIGN DISCREPANCY SCORES BETWEEN INDIVIDUALS OF THE MARITAL DYAD FOR AFFECTION

Table 20

Absolute and Sign Discrepancy Scores Between Individuals of the Marital Dyad for Affection

Dyad	Absolute Score	Sign Score (wife minus husband)
1	6.52262	-6.52262
2	1.58978	1.58978
3	1.26631	-1.26631
4	13.25297*	-13.25297*
5	2.73060	-2.73060
6	19.14627*	-19.14627*
7	3.96778	-3.96778
8	6.82740	-6.82740
9	5.51836	5.51836
10	2.45282	-2.45282
11	3.05845	3.05846
12	9.41639	9.41639
13	0	0
14	2.26899	2.26899
15	4.30643	4.30643
16	3.99308	3.99308
17	3.12042	-3.12042
18	4.11063	-4.11063
19	4.91133	4.91133
20	1.87603	-1.87603

*Significant at the .10 level.

APPENDIX O

ABSOLUTE AND SIGN DISCREPANCY SCORES BETWEEN INDIVIDUALS OF THE MARITAL DYAD FOR RESOLVE

Table 21

Absolute and Sign Discrepancy Scores Between Individuals of the Marital Dyad for Resolve

Dyad	Absolute Score	Sign Score (wife minus husband)
1	3.00013	-3.00013
2	.58153	-.58153
3	5.21972	5.21972
4	4.45188	4.45188
5	1.90060	-1.90060
6	6.37614	-6.37614*
7	5.79855	5.79855
8	1.30396	1.30396
9	2.19035	2.19035
10	2.73362	-2.73362
11	2.32181	2.32181
12	4.60703	4.60703
13	1.46026	-1.46026
14	4.96655	-4.96655
15	1.41009	1.41009
16	6.41651	6.41651
17	2.05843	2.05843
18	2.02614	2.02614
19	6.85306	6.85306
20	7.50008*	7.50008*

*Significant at the .10 level.

APPENDIX P

SUMMED Z SCORES FOR CURRENT HEALTH, FUTURE HEALTH, AND HEALTH WORRY/CONCERN

Table 22

Summed Z Scores for Current Health, Future Health, and Health Worry/Concern

Female Subjects (n = 20)	Current Health	Health Outlook	Health Worry/Concern
1	8.4010	1.7238	1.96015
2	6.33888	5.49707	1.82601
3	5.40747	1.72350	1.75812
4	4.55522	.8482	.46248
5	6.64742	2.83932	.45956
6	9.75969	1.93058	3.39724
7	2.70026	.18001	3.97726
8	2.66635	1.09890	3.26018
9	11.88474	9.27066	4.04369
10	2.20622	1.72350	.97461
11	5.32109	3.87768	.39039
12	10.97022	.77117	1.83168
13	8.82944	5.82365	4.11578
14	2.34027	.17887	.45956
15	3.93258	.84821	2.68016
16	5.32577	1.72350	1.75812
17	9.67210	5.82365	1.24161
18	8.41179	3.92014	1.89665
19	4.00887	.77117	1.24161
20	10.68082	.77232	1.75812

REFERENCES

REFERENCES

Abeloff, M. D., & Derogatis, L. R. Psychologic aspects of the manaement of primary and metastatic breast cancer. In A. C. W. Montague, C. L. Stonesifer, and Lewis, E. F. (Eds.). Breast Cancer. New York: Allen R. Liss, Inc., 1977.

Anderson, R. E., & Carter, I. Human behavior in the social environment. 2nd ed. Chicago: Aldine Publishing Company, 1978.

Asken, M. J. Psychoemotional aspects of mastectomy: A review of recent literature. American Journal of Psychiatry, 1975, 132, 56-59.

Bloom, J. R.; Ross, R. D.; Burnell, G. The effect of social support on patient adjustment after breast surgery. Patient Counseling and Health Education, 1978 (Fall), 50-59.

The Breast Cancer Digest. U.S. Department of Health, Education, and Welfare. DHEW Publication No. (NIH) 79-1691. Bethesda, Maryland: National Cancer Institute, 1979.

Craig, T. J., & Abeloff, M. D. Psychiatric symptomatology among hospitalized cancer patients. American Journal of Psychiatry, 1974, 131, 1323-1327.

Craig, T. J.; Comstock; G. W.; & Geiser, P. B. The quality of survival in breast cancer: A controlled comparison. Cancer, 1974, 33, 1451-1457.

Crano, W. D., & Brewer, M. B. Principles of research in Social Psychology. New York: McGraw Hill Book, Co., 1973.

Derogatis, L. R.; Lipman, R. S.; & Covi, L. SCL-90: An outpatient psychiatric rating scale--preliminary report. Psychopharmacology Bulletin, 1973, 9, 13-26.

Derogatis, L. R.; Abeloff, M. D.; & Melisaratos, N. Psychological coping mechanisms and survival time in metastatic breast cancer. Journal of the American Medical Association, 1979, 242 (14), 1504-1508.

Derogatis, L. R.; Rickets, K.; & Rock, A. F. The SCL-90 and the MMPI: A step in the validation of a new self-report scale. British Journal of Psychiatry, 1976, 128, 280-289.

DuVall, E. Family development. 5th ed. Philadelphia: J. B. Lippincott, 1977.

Feldman, F. L., & Scherz, F. H. Family social welfare; helping troubled families. New York: Atherton Press, 1967.

Hammerschlag, Fisher, DeCosse, & Kaplan. Breast symptoms and patient delay: Psychological variables involved. Cancer, 17, 1480-1485.

Geismar, L. L.; LaSorte, M. A.; & Ayres, B. Measuring Family disorganization. Marriage and Family Living, 1962, 51-56.

Giaquinta, B. Helping families facing the crisis of cancer. AJN, 1977, 77 (9), 1585-1588.

Gold, M. A. Causes of patient's delay in diseases of the breast. Cancer, 1965, 17 (5), 564-577.

Good, M. D.; Smilkstein, G.; Good, B. J.; Shaffer, T.; & Arons, T. The family APGAR index: A study of construct validity. The Journal of Family Practice, 1979, 8 (3), 577-582.

Greer, S., & Morris, T. Psychological attributes of women who develop breast cancer. Journal of Psychosomatic Research, 1975, 19, 147-153.

Hill, R. Family development in three generations. Cambridge, MA: 1970.

Jamison, K. R.; Wellisch, D. K.; & Pasnad, R. O. Psychosocial aspect of mastectomy: I. The woman's perspective. American Journal of Psychiatry, 1978, 135, 432-435.

Katz, Weiner, Gallagher, & Hellman. Stress, distress, and ego defenses--psychoendocrine response to impending breast biopsy. Archives of General Psychiatry, 23, 131-142.

King, I. M. Toward a theory for nursing. New York: John M. Wiley and Sons, Inc., 1971.

Klein. A crisis go to on. Cancer, 1971 (6) 1660-1671.

Knopf, A. Changes in women's opinions about cancer. Social Science and Medicine, 1976, 10, 145-146.

Lidz, T. The family and human adaption. New York: International Universities Press, 1963.

Logan, B. The nurse and the family: Dominant themes and perspectives in the literature. In Knalf, K. A., & Grace, H. K. Families across the life cycle. Boston: Little, Brown and Company, 1978.

Maurin, J., & Schenkel, J. A study of the family unit's response to hemodialysis. Journal of Psychosomatic Research, 1976, 20, 163-168.

Meyerowtiz, B. E.; Sparks, F. C.; & Spears, I. K. Adjuvant chemotherapy for breast carcinoma. Cancer, 1979, 43, 1613-1618.

Morris, T. Psychological adjustment to mastectomy. Cancer Treatment Reviews, 1979, 6, 41-61.

Morris, T.; Greer, H. S.; & White, P. Psychological and social adjustment to mastectomy. Cancer, 1977, 40, 2381-2387.

Paolucci; Hall, O. A.; & Axinn, N. Family decision making: An ecosystem approach. New York: John Wiley and Sons, Inc., 1977.

Pless, I. B., & Satterwhite. A measure of family functioning and its application. Social Science and Medicine, 1973, 1, 613-621.

Polivy, J. Psychological effects of mastectomy on a woman's feminine self-concept. The Journal of Nervous and Mental Disease, 1977, 164 (2), 77-86.

Polivy, J. Psychological effects of radical mastectomy. Public Health Reviews, 1975, 4, 279-295.

Pollard, W. E.; Bobbitt, R. A.; Bergner, M.; Martin, D. P.; & Gilson, B. S. The sickness impact profile: Reliability of a health status measure. Medical Care, 1976, 14 (2), 146-155.

Priestman, T. J., & Baum, M. Evaluation of quality of life in patients receiving treatment for advanced breast cancer. Lancet, 1976, 899-900.

Quint, J. C. Institutionalized practices of information control. Psychiatry, 1965, 28 (2), 119-132.

Quint, J. C. The impact of mastectomy. American Journal of Nursing, 1963, 63, 88-92.

Rogers, M. E. Theoretical basis of nursing. Philadelphia: F. A. Davis Co., 1977.

Satterwhite, B. B.; Zwelg, S. R.; Iker, H.; & Pless, B. The family functioning index--five year test-retest reliability and implications for use. Journal of Comparative Family Studies, 1976, 1, 111-116.

Schonfield, J. Psychological factors related to delayed return to an earlier life-style in successfully treated cancer patients. Journal of Psychosomatic Research, 1972, 16, 41-46.

Schottenfeld, D., & Robbins, G. F. Quality of survival among patients who have had radical mastectomy. Cancer, 1970, 26, 650-654.

Smilkstein, G. The family APGAR: A proposal for a family function test and its use by physicians. The Journal of Family Practice, 1978, 6 (6), 1231-1239.

Snell, L., & Graham, S. Social trauma as related to cancer of the breast. British Journal of Cancer, 1971, 25, 721-734.

Stillman, M. J. Women's beliefs about breast cancer and breast self-examination. Nursing Research, 1977, 26 (2), 121-127.

Tapia, J. The nursing process in family health. Nursing Outlook, 1972, 267-270.

Thomas, S. G. Breast cancer: The psychosocial issues. Cancer Nursing, 1978, 1, 53-60.

Tiedt, E. The psychodynamic process of the oncological experience. Nursing Forum, 1975, 14 (3), 264-276.

Van Ormer, E. B., & Williams, C. Elementary statistics for students of education and psychology. Ann Arbor: Edwards Brothers Inc., 1941.

Ware, J. E. Scales for measuring general health perceptions. Health Services Research, 1976, Winter, 396-415.

Warren, B., & Klerk, M. Patient partner perceptions of prescribed health regimen post myocardial infarction. Its effect on the marital dyad. Unpublished Research Proposal, Michigan State University, 1978.

Wellisch, D. K.; Jamison, K. R.; & Pasnad, R. O. Psychosocial aspects of mastectomy: II. The man's perspective. American Journal of Psychiatry, 1978, 135, 543-546.

Winick, L., & Robbins, G. F. Physical and psychologic adjustment after mastectomy. Cancer, 1977, 39 (2), 478-496.

Woods, N. F. Influences and sexual adaptation to mastectomy. Journal of Obstetric, Gynecologic and Neonatal Nursing, 1975, 4 (3), 33-37.

Woods, N. F., & Earp, J. L. Women with cured breast cancer. Nursing Research, 1978, 27 (5), 279-285.

Worden, J. W., & Weisman, A. D. Psychosocial components of lagtime in cancer dianosis. Journal of Psychsomatic Research, 1975, 19 (1), 69-79.