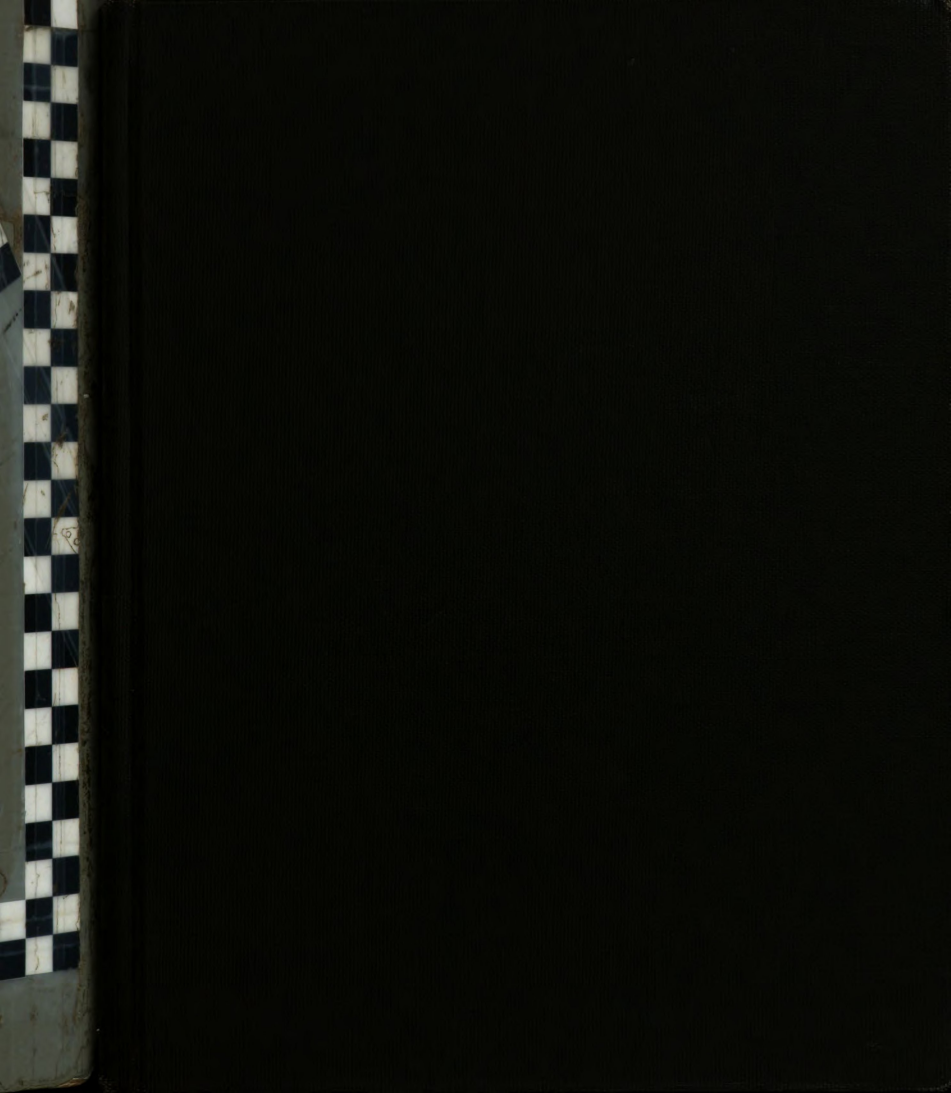




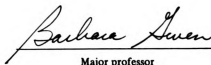


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presented by

Phyllis Greenberg Gendler

has been accepted towards fulfillment
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M.N. _____ degree in Nursing


Major professor

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1979

THE RELATIONSHIP BETWEEN THE SYMPTOMS A WOMAN ATTRIBUTES
TO HER MENOPAUSE AND HER PERCEPTION OF THEIR EFFECT
ON HER PERFORMANCE OF SELECTED LIFE ACTIVITIES

By

Phyllis Greenberg Gendler

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ABSTRACT

THE RELATIONSHIP BETWEEN THE SYMPTOMS A WOMAN ATTRIBUTES TO HER MENOPAUSE AND HER PERCEPTION OF THEIR EFFECT ON HER PERFORMANCE OF SELECTED LIFE ACTIVITIES

By

Phyllis Greenberg Gendler

A descriptive study of 40 women experiencing natural menopause seen during visits to seven physicians was undertaken to determine the relationship between a woman's menopausal index score (MIS) and her life impact score (LIS).

The variables were measured by means of a written questionnaire. The independent variable (MIS) was an evaluation of the woman's menopausal symptoms. The LIS, dependent variable, reflected how the woman believed her menopausal symptoms interfered with her performance of selected life activities: recreational (social), family interactions, homemaker/job role, and sexual activity.

The relationship between the variables was moderately high, .6984, significant at the .001 level. As a woman's symptoms became multiple and more severe, there was increasing interference in her ability to perform the selected life activities. No typical menopause was demonstrated.

This study provided information to help the nurse understand the menopausal woman. The questionnaire identified women having difficulty adjusting to menopause.

To My Family
Harvey, Dan, and Sam

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CHAPTER I

THE PROBLEM

Introduction

Menopause as a stage in the developmental process has implications for the well-being of women. The way a woman adapts emotionally and physically to the symptoms of menopause may affect her vitality and the meaningfulness of the last years of her life (Greenblatt, 1974).

Menopause represents a time of stress for many women as they deal with body changes which have emotional and physical effects. The stress of menopausal symptoms is frequently compounded by the many changes that occur in a woman's life at this time. There are changes in family relationships: children reach adolescence, parents age and may need care, and climacteric changes also take place in her mate. A woman may be affected by a decline in physical and mental capabilities which is accentuated by cultural attitudes about menopause and aging. The financial responsibilities are also extremely high at this stage of the family life cycle due to rising expenses of adolescent children, especially in the area of education (Chilman, 1968; Stevenson, 1977).

The menopause is approached by many women with fear, incorrect information, and misunderstanding (Hargreaves, 1975). Many women do

not understand their bodies and respond with fear to the unusual way in which their bodies are functioning (van Keep, Greenblatt, & Albeau-Fernet, 1976). Menopausal women tend to keep their feelings to themselves because they believe they are not "normal." Women are also influenced by myths associated with menopause. Common misconceptions inherent in our cultural and societal attitudes are that menopause ends a woman's interest and participation in sexual activity and that menopause is an affliction to be suffered through in a helpless fashion (Segwick, 1975). The physiological signs of aging may be very difficult for women to accept because of the American emphasis on a youthful body (Diekelmann, 1977). Some women believe that estrogen replacement therapy will prevent aging. Because of these cultural influences and to avoid belittlement, women tend to keep their menopause hidden.

Besides the alterations that need to be made in family interactions and adjustments to symptoms that may affect the performance of tasks as homemaker or on the job, major adjustment needs to be made in a woman's attitude about sexuality and the feminine experience. Sexual identity and body image are altered as physical appearance changes. The loss of the ability to bear children, the youthful token of femininity (figure), general vigor and stamina, and social role of motherhood (Greenblatt, 1974) all affect sexual identity. Because of these changes, the woman must restructure her self-image (Prock, 1975).

Preceding menopause, hormone imbalance resulting from declining ovarian activity causes the breasts to become turgid and increase in size. This is probably due to a relative excess of estrogen in relation to an inadequate progesterone production (Green, 1977). The skin becomes thinner and loses its elasticity and turgor; thus scaling and wrinkles appear (Diekelmann, 1977).

After menopause with the cessation of ovarian function there is an alteration in adrenal hormone production. The decline in adrenal androgen coupled with estrogen lack results in a shift in metabolic balance and accelerates the process of protein catabolism (Green, 1977). Consequently, there are changes in fatty and glandular tissue and the general muscle tone decreases. Buttocks and breasts shrink and become pendulous. Nipples become smaller and lose their erectile character.

The quantity as well as the quality of life may be improved by exogenous hormone replacement. It has been demonstrated that the major symptoms of menopause--flushes and sweats, atrophic vaginitis, depression, fatigue, and insomnia--can be relieved by estrogen. Atrophic changes in the distal urinary tract and urethra that cause urinary frequency, burning, and occasional stress incontinence can also be relieved by estrogen (Graber & Barber, 1975). There is general confusion and conflicting opinions, however, regarding other benefits of estrogen replacement. Some experts believe that estrogen may prevent atherosclerosis and osteoporosis. Estrogen is believed to be effective because it influences a positive calcium balance and

continued osteoblastic activity (Morris, 1978). Others believe that there is an increased risk of heart disease and cancer with hormone use. An increased incidence of stroke, myocardial infarction and hypertension has been associated with estrogen administration in some studies (Quigley & Hammond, 1979; Shoemaker, Forney, & MacDonald, 1977). The increased risk of cancer with the use of estrogen is to the target organs that depend on estrogen such as the uterus, vagina, and breasts (Diekelmann, 1977; Morris, 1978).

It is generally believed that half of all women move through menopause with few or no physical or psychological symptoms other than changing patterns of menstrual flow and final amenorrhea. However, the remainder experience varying degrees of discomfort from symptoms associated with menopause (Hargreaves, 1975). Since menopause affects women 45-55 years old, the problem is relevant to a large group of people as evidenced by the 1970 U.S. census which acknowledges that of the 104,000,000 women in this country, 27,000,000 are 50 years of age or older. Since at age 50 a woman can expect an additional 28 years of life, approximately one-third of a woman's life will be associated with the waning endogenous estrogen production of the postmenopausal period (Ryan & Gibson, 1973).

It is desirable that women with the menopausal syndrome learn how to manage effectively with the changes in their bodies and lives. In order to adapt to the stress of this developmental phase and feel comfortable with their identity, women should understand

the menopause and achieve a positive attitude of acceptance about what is happening to them.

Estrogen treatment may be an aid in alleviating symptoms. Another acceptable means of assisting women is through reassurance and support (Glass, 1976). Nurses can provide anticipatory care and information about the female body and physiology of menopause to menopausal women. Misconceptions, such as menopause causing cancer, insanity and loss of sexual function, must be corrected. Conveying the attitude that menopause is normal and validating symptoms as normal should be helpful. Nursing activities can help women increase their feelings of usefulness. Women need to know why estrogen may or may not be effective and the risks and side effects of its use.

The menopause as a developmental phenomena requires further study and research. Further theory and knowledge will enable nurses to discover effective strategies for preparing women for menopause and assisting menopausal women through this period of time.

Purpose of This Study

Although there is much evidence to substantiate the significance of menopause in a woman's life and the common occurrence of accompanying physiological symptoms which cause discomfort, menopause has received minimal attention in the research literature. No consistent definition of menopause has been developed nor has the population "at risk" to develop symptoms been identified (McKinlay, S. & McKinlay, J, 1973). Also lacking is a clear understanding of the "menopausal syndrome" and the symptoms that should be

appropriately attributed to it. In order to evaluate any treatment provided to alleviate problems for a woman experiencing menopause, the menopause needs to be better understood, from both standpoints: the associated symptoms and its effect on a woman's life activities.

The purpose of this study is to analyze the effect of the symptoms attributed to menopause on a woman's performance of selected life activities. Specifically, the problem is: What is the relationship between a woman's menopausal index score and her life impact score?

The following questions will also be addressed in this study:

1. What are the symptoms menopausal women attribute to the menopause?
2. What are the characteristics of the symptoms of menopause: severity, frequency of symptoms, and length of time symptoms are experienced?

Definitions of Concepts

Menopause--A Developmental Stage

Although menopause is a natural biological process which occurs in women (Neugarten & Kraines, 1965), there is a lack of agreement of a definition of menopause in the literature. Perlmutter restricts the definition to "a very specific period of time in which the cessation of menses occurs" (Notman & Nadelson, 1978, p. 323), further explaining that the diagnosis can only be made after one year has elapsed. However, because it is characterized by the noticeable decline in ovarian function, symptoms may occur before,

coincide with or appear several years after the cessation of menses (Neugarten & Kraines, 1965). Therefore, the term "menopausal years" has been coined which refers to the perimenopausal period and includes the premenopause, menopause and postmenopause (Notman & Nadelson, 1978).

In the United States, the average age of cessation of menses is 49 years (Beard, 1976). The "menopausal years" in a woman's life takes place over a period of about 15 years, approximately from 45 to 60 years of age. Cessation of menses before the age of 40 is considered premature and occurs in only 8% of women (Stevenson, 1977). The symptoms of menopause occur most frequently in women aged 45 to 55 (Bensen, 1978; Neugarten & Kraines, 1965). Stadel and Weiss (1975) reported a substantial number of women experiencing menopause in the 40 to 60 year range.

The focus for this study includes the broader psychological aspect of a woman's adjustment to the "menopausal years" as well as to the physiological symptoms of menopause. Therefore, for this study, menopause is defined as that period in a woman's life between 40 and 60 years of age when changes in ovarian function are occurring. The menopausal woman believes she is in the menopause and recognizes that she has at least one of the selected symptoms.

Study Variables

Menopausal Symptoms. The symptoms attributed to menopause are varied. Symptoms include changes in menses which can be a combination of hypermenorrhea, hypomenorrhea, irregular menses and

subsequently cessation of menses. Common physical symptoms are hot flashes and sweating, headache, abdominal distention, arthralgia, backache, skin changes, senile vaginitis, dyspareunia and breast discomfort. Other symptoms that occur frequently are insomnia, nervousness, poor memory, depression, fatigability, dizziness, nausea, decreased or increased libido and anxiety (Bensen, 1978; Galloway, 1975; Greenblatt, 1974; and Kupperman, Wetchler & Blatt, 1959).

The normal physiology of this stage of menopause explains many of these symptoms. Ovarian activity fluctuates and menopause starts gradually with changes in menstruation, the flow getting smaller and irregular and eventually ceasing. Symptoms vary due to the change in secretion of the ovarian hormones, estrogen and progesterone. Adjustment to hormonal fluctuations can take from one month to two years, although in some cases symptoms may occur for a prolonged period of time, as long as 10 years (Galloway, 1975; Hargreaves, 1975).

With the cessation of ovarian activity, estrogen levels fall and there is atrophy of the reproductive organs and mammary glands. Consequently, the vaginal mucosa undergoes thinning and atrophy, and irritations of atrophic vaginitis and vulvitis occur. To some extent mucous membranes elsewhere in the body are also affected by the decrease in estrogen. There are atrophic changes in the distal urinary tract and urethra which lead to urinary frequency, burning and occasional stress incontinence (Galloway, 1975; Green, 1977).

Estrogen normally facilitates heat loss by favoring vasodilatation in the cutaneous circulation. In the absence of estrogen this mechanism becomes somewhat deficient and excessive heat is dissipated by vasodilatation at the level of the arterioles. Because the alternate mechanism is less efficient in maintaining a constant body temperature, the woman experiences the subjective hot-flash sensation at intervals (Green, 1977).

Laboratory evaluations as well as the variety of symptoms provide a basis for clinical diagnosis of the menopausal syndrome (Greenblatt, 1974). For example, an indirect estimate of the estrogen level may be obtained by vaginal smear, because the desquamated vaginal epithelial cells accurately reflect a changing hormonal pattern. In postmenopausal women, the vaginal smear would show a low maturation index. Urinary excretion studies can also be done. The menopausal woman is likely to secrete less estrogen and an increase in urinary secretion of pituitary gonadotropins provides an absolute diagnosis of the menopause (Green, 1977).

For this study specific symptoms experienced by women 40 to 60 years old who identify themselves as menopausal are evaluated. The menopausal syndrome is characterized by the non-surgical occurrence of at least one of the following symptoms experienced within the last year: changes in menses, hot flashes and/or sweating, paresthesia, insomnia, nervousness, depression, vertigo, fatigue, arthralgia and myalgia, headache, palpitation, formication, breast pain or discomfort, poor memory, dyspareunia, and vaginal dryness.

Hereafter, the evaluation of these symptoms will be referred to as the menopausal index score (MIS).

Performance of Life Activities. A person engages in a variety of activities during a lifetime and these activities describe the human's life space. Stevenson (1977) offers an approach to studying the adult's life space by applying systems theory and role theory. She arbitrarily identified four major areas for analysis: "(1) work and leisure, (2) the family, including the marital relationship and child-rearing function, (3) community responsibility and participation, (4) development of personal maturity" (p. 53).

Stevenson describes work as an instrumental activity that people may use to justify their existence. Work and leisure appear to be culturally defined. Stevenson views the family as a culturally produced social institution of major importance during adult life. In order to include variant forms, the family is defined broadly. It is composed of two or more people comprising a type of primary group. The members of the family interact through designated or assumed roles, create and maintain a common culture and perform specific functions such as maintenance of a common household and companionship and mutual support among members. Stevenson presents community participation in terms of responsibilities adults have in improving and sustaining community life through government, business, service organizations, education, and religious involvement. Development of personal maturity is a changing process as one's

self-concept changes in the accomplishment of the developmental tasks of each age group in all four areas of an adult's life space.

When a woman does not feel well, it affects her life as demonstrated in the Weissman and Paykel (1974) study of a specific illness, depression. Weissman and Paykel postulated in their study of depressed women that "The interpersonal field and the individual's adjustment to it are partial determinants of the patient's illness" (p. xv). Once an illness develops, it influences a person's capacity to perform her social obligations and her reaction to those around her. This social approach to studying the human emphasizes that personal experience and its meaning are major determinants of illness and the patient's response to change. These authors define social adjustment as the interplay between the individual and the social environment and is reflected in an individual's ability to function in roles. The social roles described by Weissman and Paykel are similar to those Stevenson identifies of well individuals and span the range of everyday activities involving work, leisure, and family.

Menopause is a significant period in a woman's life space and a major developmental stage (McGuire & Sorley, 1978). A woman's menopausal symptoms are affecting her feeling of well-being and there is a change in sexual identity and transition in the role expectations in the areas of her life (Stevenson, 1977). Therefore, it would appear that the woman's life space and the way she performs her roles would be affected by menopause. Four role areas were selected for this study based on the work of Stevenson and Weissman and Paykel.

Areas selected include family interactions, homemaker/job role, recreational (social) activities, and sexual activity. Since the effect of menopause is influenced by a woman's personal meaning of and attitude toward menopause, the woman's perception of the impact of menopause on her performance of these selected life activities is measured. The evaluation of the impact of a woman's perception of the symptoms of menopause affecting her performance of selected life activities is reflected in the life impact score. Hereafter the life impact score will be referred to as the LIS.

For this study family is defined broadly, consistent with Stevenson's definition. The woman answers a series of questions entitled family interactions (see p. 9 of Questionnaire in Appendix A). Homemaker role includes activities she participates in managing her home and is explained in the questionnaire (Appendix A, p. 10). The job role refers to work activities the woman does for money outside the home. The woman is allowed to define social (recreational) activities for herself with the series of questions titled as such (see Appendix A, p. 8).

Sexuality is defined by Shope (1975) as "the total characteristics of an individual--social, personality, and emotional--that are manifest in his or her relationships with others and that reflect his or her gender-genital orientation" (p. 36). Woods (1975) states that, "The way in which one perceives his or her body . . . influences the sexual self-concept and, in turn, sexual behavior" (p. 141). Lief (1968) explains that, "Sexuality is everything that has to do with

your being a man or a woman . . . education for sexuality is every experience you have had up to your particular stage of development as a male or as a female" (pp. 42, 46). "Some feminists insist that a woman's sexuality . . . exists in and of itself irrespective of whether she ever interacts with a man" (Morrison & Borosage, 1977, p. xi).

Therefore, in order to evaluate the effect of menopause on a woman's sexual activity, sexual activity is defined broadly. For this study, because the attitude one has about oneself affects sexual activity, sexual activity includes gender identity and attitudes about the feminine experience as well as any activity a woman engages in for sexual satisfaction either with or without a partner.

Extraneous Variables. Data that describe the menopausal woman and may influence the MIS and LIS are collected and classified as extraneous variables. Age, ethnic group and national origin, marital status, family income, education, occupation, volunteer work, and employment are included in the demographic information collected. Household composition and number and ages of children are also described. Information about the use of hormone supplements, birth control methods, conditions treated by a physician and current medications is collected. In order to identify any recent stress, questions are asked that include recent surgery or injury, recent death in the family and recent separation from a member of the household, as well as any other stress the subject might identify. The patient's perception of why she thinks she is in the menopause

is included as well as a description of changes in menses. Two attitude questions are included: how she feels about menstrual periods and how she feels about any contact she might have had with menopausal women in the last two weeks. Another descriptor is the time at which she first experienced symptoms of menopause.

Limitations of the Study

The limitations of the study are:

1. The subjects who agreed to participate in the study may be different from those who refused. Because not all women seek medical care, some women were not accessible to the researcher for sampling. The offices chosen for selecting the sample may have attracted a particular type of patient because of location or personality of physicians. Therefore, it is possible that the research findings are not representative of all menopausal women.

2. Because the instrument is primarily close-ended, it limited the respondents' answers to those issues the researcher believes are important and may not reflect the woman's true feelings and experience with menopause. Subjects will respond to symptoms suggested more readily than report "other" symptoms. If a woman is a student, there are no series of questions that measure the effect of menopause on the student role. Symptoms are subjective and some subjects may lack the ability to describe them. There are individual interpretations of the questions by subjects. There may be other variables affecting a woman's menopause that are not measured. Therefore, the sample size may be too small or the instrument not sensitive enough to distinguish differences in subjects.

3. As menopausal symptoms can occur over a period of time, it is recognized that the instrument may not have been administered at a crucial time in relation to the specific subject's menopausal symptoms.

4. There may be stressors in the subject's life that have not been identified by the instrument but will influence the client's perception of her symptoms and her LIS.

5. The American attitude toward women and women's role has changed in recent years. The women in this study grew up at a time when American society defined a woman's role basically in terms of being a wife and mother. Many of the women in this study have not been conditioned to visualize a role outside the home and feel secure in the wife and mother role. Being exposed to the varied life styles of younger women of today's culture may create in these menopausal women uncertainties about their own identity and purpose in life. Therefore, the women in this study may be more stressed by the menopause than women who are now in their twenties will be when they experience menopause. Consequently, the results of this study are limited by this era of American culture (Sheehy, 1976).

Assumptions

The researcher is making the following assumptions in this study:

1. It is assumed that women generally have some basic knowledge of the terminology and symptoms of menopause.

2. It is assumed that women are able to and will honestly recognize and identify their symptoms of menopause and the effect of menopause on their lives.

3. It is assumed that data will be collected on women who are experiencing a wide range of menopausal symptoms.

4. It is assumed that the instrument is sensitive enough to measure differences in subjects and to detect the LIS and MIS.

Overview of the Chapters

The study is presented in six chapters:

Chapter I -- Introduction, statement of the problem, hypotheses, operational definitions, and the limitations and assumptions of the study.

Chapter II -- Application of Orem's self-care nursing theory to a woman experiencing menopausal symptoms.

Chapter III -- Analysis of research literature pertinent to the problem.

Chapter IV -- Methodology and procedure used in the research.

Chapter V -- Data presentation and the analysis of the results of the research.

Chapter VI -- Summary of the research findings, interpretations and implications.

CHAPTER II

CONCEPTUAL FRAMEWORK

Introduction

In this chapter a discussion of the relationship between nursing care based on theory and a woman experiencing menopausal symptoms will be presented. The concepts portrayed are self-care nursing theory, as described by Orem (1971, 1978), and menopause as a developmental stage, with its associated symptoms and effect on a woman's performance of selected life activities. According to Orem, nursing activities are directed toward helping patients care for themselves. "Self-care is an adult's personal, continuous contribution to his own health and well-being" (Orem, 1971, p. 13). This study contributes to the knowledge base of the nurse and offers a method of identifying menopausal women from whom self-care may satisfy a health need. The action nurses take in facilitating self-care for the menopausal woman should incorporate knowledge and understanding of the woman experiencing menopause.

Orem's Nursing Theory

Orem's (1978) self-care theory of nursing encompasses three major concepts: self-care, self-care limitations and the nursing system. Self-care refers to performing required measures to facilitate a sense of well-being and sustain life in health related

matters for self or dependent. "In modern society, the adult person is expected to be self-reliant and responsible for himself and for the well-being of his dependents" (Orem, 1971, p. 1). Self-care, as explained by Orem, is a requirement for individuals to remain alive and function as humans. Self-care, defined by Orem, is a learned behavior that is facilitated by quality interpersonal relationships and communication. Knowledge and beliefs about health influence self-care action (Orem, 1971; 1978).

"Nursing has as its special concern man's need for self-care action and the provision and management of it on a continuous basis in order to sustain life and health, recover from disease or injury, and cope with their effects" (Orem, 1971, pp. 1, 2). Nursing is required when there are limitations in humans for engaging in self-care which is supportive of life and health. The nursing system helps people use technologies that will result in effective self-care action. Technologies include the use of special techniques and the application of scientific knowledge (Orem, 1978).

The human's ability to engage in self-care is affected by his age, sex, developmental state, health state, experience, culture, and available resources. When there are inabilities and the need (demand) for self-care is present, these limitations cause the client to be in a state of social dependency and he may need to form a relationship with the nurse. The basis of the nursing relationship, according to Orem, is to help in the development of self-care abilities when there is interference in self-care action (1971).

Nursing activities should assist the individual to be aware of his capabilities. The interaction between the nurse and the patient facilitates self-care action by enabling the patient to associate the technology appropriate for the patient to perform the desired course of action. In order to assist the individual, nurses make judgments about the individual's self-care abilities and the need for self-care action. The individual, contributing in an active role to the interaction process, provides the nurse with a data base so that the nurse can diagnose, prescribe and offer the required technologies to the patient which are necessary for self-care action. The judgments nurses make are based on the examination of data obtained from assessing the patient's need for self-care and his abilities and limitations for self-care action in health related measures. The data base also provides the nurse with information that enables the nurse to identify what nursing action should be taken on behalf of the patient.

There are three types of nursing systems: wholly compensatory, when the patient takes no active role, partially compensatory, when both the patient and the nurse participate in self-care, and supportive-educative (developmental), when the patient performs his own care but needs the nurse's assistance to overcome limitations. The types of nursing systems, therefore, describe the role of the nurse and the patient in accomplishing self-care. Depending on the self-care limitations, nursing can help the patient by acting for or doing for, guiding and directing, teaching, supporting (physical and

psychological) and providing for a developmental type environment (Orem, 1971, p. 72). This study focuses on the supportive-educative (developmental) system because the menopause is a normal developmental phase. The menopausal woman needs assistance from the nurse if she has limitations in her abilities to perform activities that are necessary ". . . in forming or changing of attitudes and values, the creative use of abilities, adjustment of self-concept, as well as physical development" (Orem, 1971, p. 75). In this system, "a patient's requirements for assistance relate to decision making, behavior control, and acquiring knowledge and skills" (Orem, 1971, p. 79), so that self-care can be accomplished. For example, the menopausal woman has the health need to be informed about the importance of doing self-breast examinations because the incidence of breast cancer is high in this age group. The menopausal woman may need assistance from the nurse in order to learn how to examine her breasts. She may need to be encouraged to report any masses in the breast to the nurse or physician. See Figure 1 for the basic design of the supportive-educative system as it relates to self-breast examinations as a health need of menopausal women.

Menopause--A Developmental Stage

Menopause is a normal developmental process which occurs in women in middlecence. "Middlecence or middle adulthood refers to the stage in life when the adult life-style, the occupational mode, and the family life (or single life) pattern have been chosen and the individuals involved settle down to implementing their choices.

SUPPORTIVE - EDUCATIVE SYSTEM

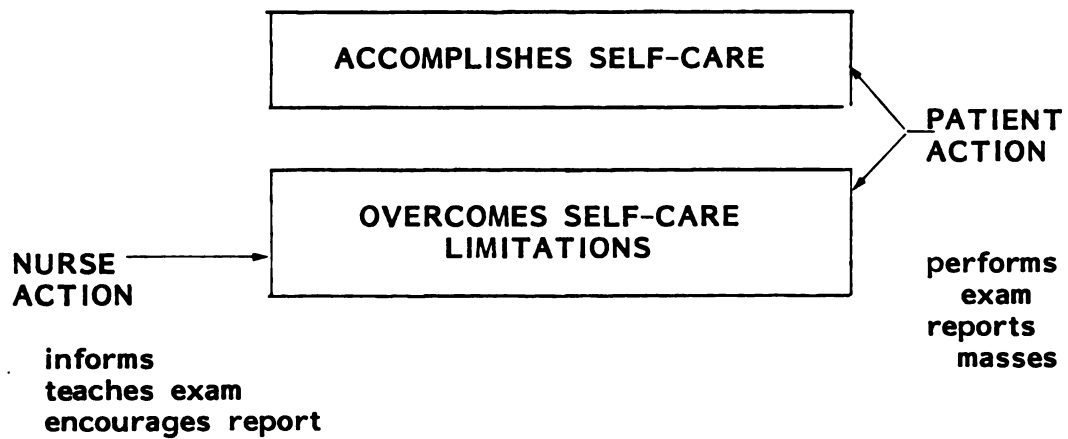


FIGURE 1

**THE BASIC DESIGN OF THE NURSING SYSTEM
USED IN THIS STUDY**

SOURCE: Dorothea E. Orem, Nursing: Concepts of Practice (New York: McGraw-Hill Book Company, 1971).

. . . The major objective is to assume responsibility for growth and development of self and of organizational enterprises. Another objective is to provide help to younger and older generations without trying to control them" (Stevenson, 1977, pp. 17, 18).

Study Variables

Menopausal Symptoms

There are many symptoms associated with menopause. For this study, changes in menses, hot flashes and/or sweating, paresthesia, insomnia, nervousness, depression, vertigo, fatigue, arthralgia and myalgia, headache, palpitation, formication, breast pain or discomfort, poor memory, dyspareunia, and vaginal dryness are evaluated. If a woman has many symptoms because of menopause, then it is assumed that her well-being is affected and, therefore, she has a self-care demand. If she does not understand her symptoms, she has self-care limitations. The nurse using the educative-supportive (developmental) nursing system, interacting with the menopausal woman, can teach and support her and thus facilitate a woman's contribution to her own health and well-being.

LIS

A woman's menopause and symptoms may also be affecting her life-space, i.e., selected life activities. The selected life activities describe some of the tasks of middlecence, and the effect of menopause is reflected in how the woman's menopause interferes with her ability to perform these life activities (LIS).

"The adult patient's health and his health care may interfere with family life, work, and other aspects of adult living" (Orem, 1971, p. 133). The nurse and patient should assess the extent of interference in the menopausal woman's performance of the selected life activities and together plan self-care activities which would create improvements in the woman's life space. It may be necessary to elicit understanding and support from the woman's family members; their assistance to the woman in performing daily activities may be beneficial.

Extraneous Variables

There are many factors that affect a woman's ability to perform self-care in health related measures besides the menopause and its related symptoms. For this study, they are classified as extraneous variables and consist of demographic descriptors such as household composition, educational background, economic status, marital status, and occupation. Hormone supplement, other health conditions, and stress in the last year are also included as extraneous variables. "Practices are properly adjusted to the factors of age, health, individual modes of functioning and environment" (Orem, 1971, p. 136).

In summary, the menopausal woman is dealing with a normal developmental stage of life, middlecence, when changes are occurring in her relationships with family members. Consequently, the menopausal woman is undergoing role changes and her concept of herself is changing. The woman may be experiencing symptoms (MIS) because

of hormonal changes in her body, and these will affect her feeling of well-being. The woman is also affected by other factors in her life such as financial resources, possible stressors, health status, family life, education, and occupation (extraneous variables). The interaction of the extraneous variables, symptoms (MIS), and the developmental stage are shown in Figure 2. The interaction of these variables affect the menopausal woman's ability to accomplish the tasks of living (selected life activities) which is reflected in her LIS.

In the next section there is a discussion of how the nursing system can impact a menopausal woman and assist her at this time.

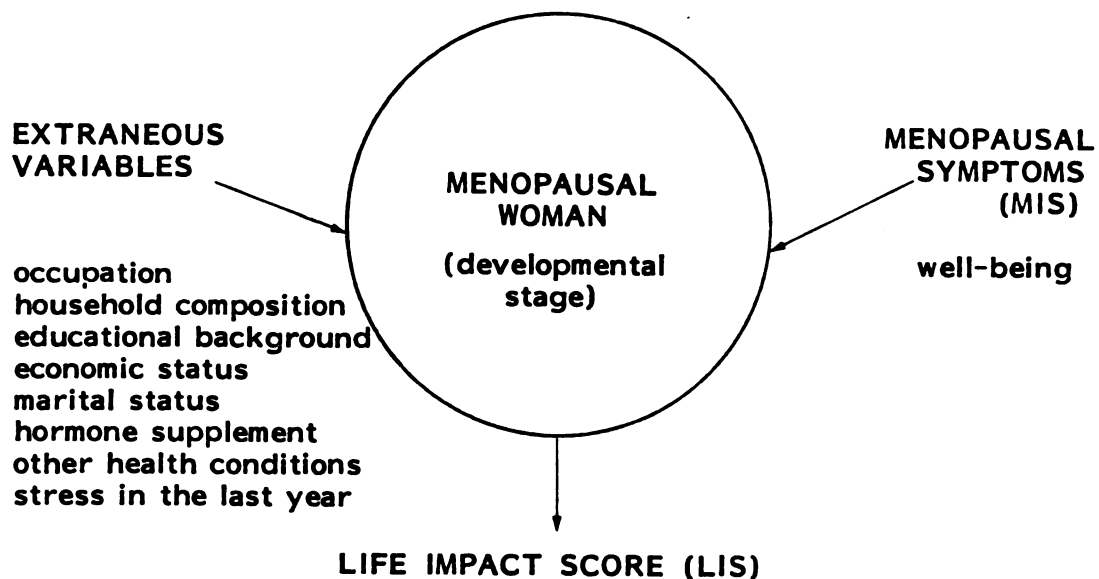


FIGURE 2
MODEL SHOWING INTERRELATIONSHIPS OF VARIABLES

Nursing System

Menopause is "a nursing situation where the health focus is oriented to the life cycle . . ." (Orem, 1971, p. 145). The care is planned to promote health and to protect against specific diseases and injuries. The patient's behavior is indicative of wellness rather than illness. Self-care limitations would arise from lack of knowledge, skill or essential resources (Orem, 1971). One type of technology of nursing is concerned with promoting processes of human growth and development, including self or ego development. Self-care is therapeutic if it stimulates the continued development and adjustment by the person of a realistic concept of himself. Nursing assistance should help the individual accept his own state.

The supportive-educative nursing system is needed if the menopausal woman has a self-care demand such as uncomfortable symptoms and a self-care deficit such as lack of information or awareness about the symptoms. Especially if a woman has a negative attitude about the menopause, she will need support in adjusting to her changing body image and identity. The nurse can convey the attitude that menopause is normal and validate the woman's symptoms as normal for this stage. Encouraging the woman to talk about her feelings should be helpful, as well as pointing out her strengths, potential and usefulness.

The nurse must consider all the factors affecting the menopausal woman when choosing a method of assistance that will help the woman perform self-care activities. The nurse must evaluate the

menopausal symptoms, LIS and the extraneous variables identified in this study, all of which affect the menopausal woman's ability to engage in self-care: ". . . the art of nursing is the ability . . . to assist others in the design, provision, and management of systems of self-care to improve or to maintain human functioning at some level of effectiveness" (Orem, 1971, p. 69).

Nursing is needed if the woman is having uncomfortable symptoms of menopause and does not understand them or does not know how to deal with the effects of her symptoms. For example, if medications are needed, the woman should know the dose, side effects and reasons for their use. The menopausal woman may need to be encouraged to rest more, increase her exercise, improve her nutrition, and learn techniques to relieve painful intercourse. The woman needs to be reassured that her symptoms are normal for this stage of development. The nurse may also assist the woman in her relations with her family. This may be accomplished by meeting with family members and promoting effective communication among family members. Figure 3 illustrates the relationship between concepts identified in this study. The model (Figure 3) demonstrates that the nursing system should be responsible for assessing a woman's menopausal symptoms (MIS) and other factors impinging on her and the effect on a woman's ability to perform life activities (LIS). The supportive-educative part of the nursing system may be instrumental in assisting the menopausal woman in self-care which should help her sustain life and health. The purpose of this study is to analyze the effect of the symptoms a

woman attributes to menopause on her performance of selected life activities. This study will provide a method for describing the menopausal woman and add to the knowledge base of nursing.

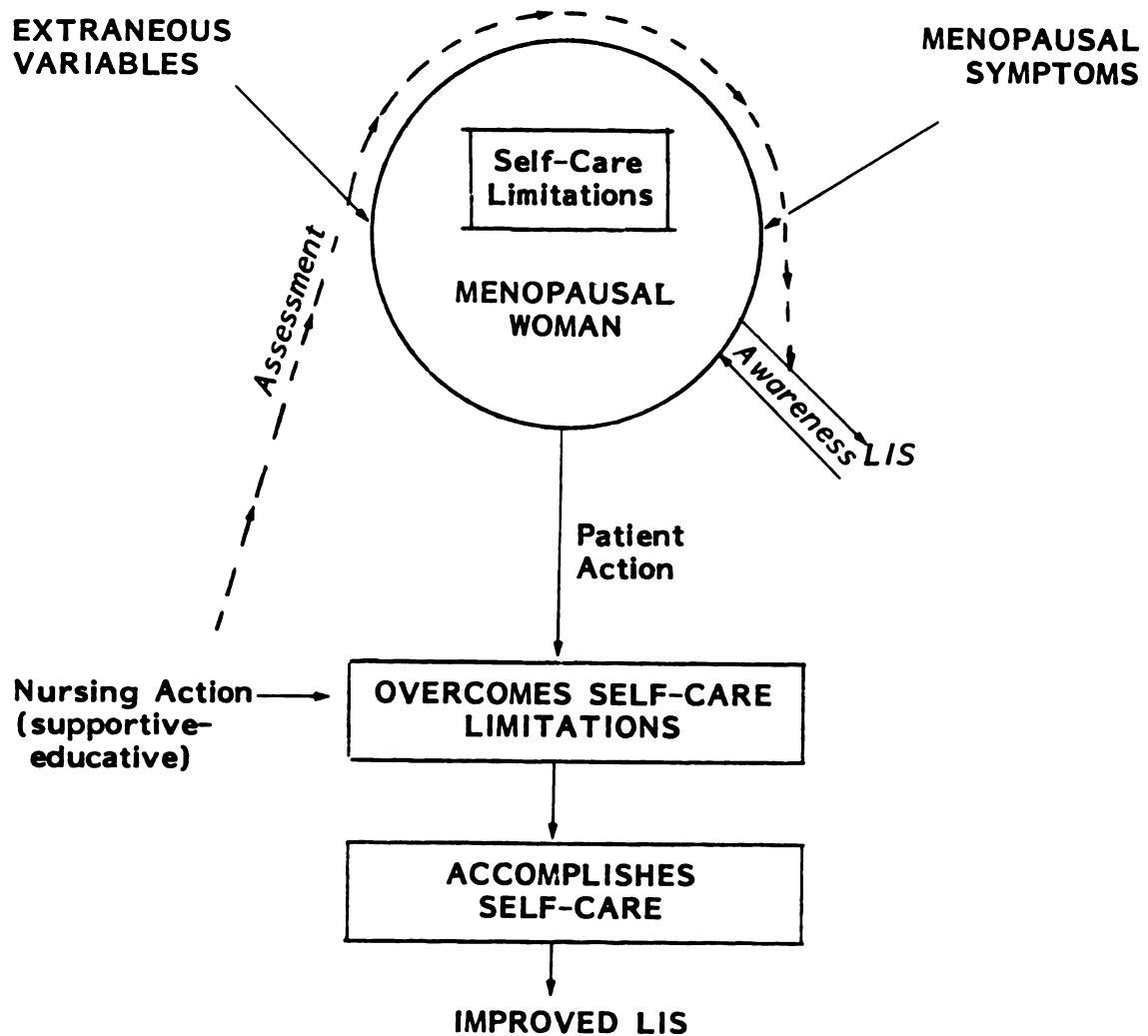


FIGURE 3

MODEL SHOWING INTERRELATIONSHIPS OF VARIABLES
AND THE ROLE OF THE NURSING SYSTEM

CHAPTER III

REVIEW OF THE LITERATURE

Introduction

The review of literature includes topics relevant to an understanding of the menopausal woman. In this chapter, literature relating to the menopausal syndrome, the middle years, the effects of stress, and the behavioral manifestations of health and illness is discussed.

McKinlay, S. and McKinlay, J. (1973) have reviewed thirty years of literature on the subject of menopause. They found that much of the work on the menopause has been based on clinical observation or experience rather than on well constructed research. This is particularly true of studies that have neglected to include control groups and random samples in the evaluation of treatment regimens. Studies that are representative of those reviewed by McKinlay, S. and McKinlay, J. will be reviewed in the section on the menopausal syndrome. Also included in the review of literature are studies on the use of estrogens in the management of the menopause and female attitudes about the menopause. Because the middle years appear to be a time when stressful events occur in a woman's life, a discussion of the middle years and theories about the effects of life crises are reviewed in this chapter.

Recently, an interest in formally evaluating health care services has occurred. One method is to measure the outcome of health care services in the form of a behaviorally based measure of interference with function. This researcher applied this concept to measure the outcome of menopause on a woman's life. The life impact score (LIS) is a measure developed for the present study to describe interference with function in a woman's life she attributes to menopause.

The Menopausal Syndrome

The literature on menopause implies "that the period just before and just after the menopause (defined here as the last menstrual period) is one in which many normally symptom-free women experience a series of possibly distressing symptoms" (McKinlay & Jefferys, 1974, p. 108). The research by McKinlay and Jefferys (1974) was a major contribution to the understanding of the menopause, its associated symptoms, and the effect of sociodemographic characteristics and attitudes. The 638 "well" women in the study were age 45 to 54. Menopause was defined as the cessation of menses, and the median age of menopause for these women was 50 years. The women had experienced or could experience natural menopause. The women were classified into 4 menopausal status groups according to their menses status:

- a. Regular menses with no change in regularity or volume in the previous year;
- b. Transitional-menses in the last three months with some change in regularity and/or volume in the previous year;

- c. Menopausal--last menstruated between 3 and 12 months ago; and
- d. Postmenopausal--divided into eight subgroups:
 1. menstruated last between 1 and 2 years ago
 2. menstruated last between 2 and 3 years ago
 3. menstruated last between 3 and 4 years ago
 4. menstruated last between 4 and 5 years ago
 5. menstruated last between 5 and 6 years ago
 6. menstruated last between 6 and 7 years ago
 7. menstruated last between 7 and 9 years ago
 8. menstruated last more than 9 years ago.

A cluster analysis of symptoms demonstrated no relationship between the group of symptoms, the six sociodemographic variables and any one menopausal status group. A close relationship existed between age and menopausal status. Hot flushes was the only single symptom clearly associated with menopausal status (c, last menstruated 3-12 months ago), and this occurred in a majority of women in this group. A strong relationship existed between hot flushing and night sweats, and the authors believe that hot flushing and night sweats are probably the same phenomena, and it is just the time of day that distinguishes the two. The remaining symptoms (headaches, dizzy spells, palpitations, sleeplessness, depression, and weight increase) were reported by 30-50% of all groups in like manner and were associated with each other across all menopausal groups. Depression, the most frequently reported symptom, was not related to any menopausal status groups. Some increase in symptoms occurred during transitional, menopausal status group b (change in menses in last year): sleeplessness, depression, weight increase, and palpitations. The time immediately before and up to nine years following menopause

is associated with a generally higher rate of reported symptoms than earlier or later periods. If the subjects experienced hot flushes, they were more likely to experience other symptoms.

Attitude about menopause was evaluated and it was found that a rather large proportion of women (20%) who had menstruated in the last year anticipated the menopause would be difficult, and nearly one-third who were postmenopausal said it had been difficult for them. The difficulties expressed as a result of menopause were both physical and emotional discomfort. McKinlay and Jefferys did not cite examples of the difficulties the women expressed.

McKinlay and Jefferys' study was important in that a typical menopausal syndrome was not identified, and the only symptom clearly associated with menopause was hot flushes which begin to occur with menses changes and continue very often for five years. Because hot flushes and night sweats were so closely associated, they were not differentiated in the present study but were grouped as one symptom.

It is also significant that symptoms occur most often when menses are changing in pattern and flow. Therefore, a limitation of McKinlay and Jefferys' study is addressed in the present study. McKinlay and Jefferys classified menopausal status group b, transitional (changes in menses in past year), broadly by including women in one group who had varied experiences with changes in menses for an entire year. The present research studies the transitional time period in more detail dividing the changes in menses into those that have occurred less than 3 months ago, 3 to 6 months ago, and more than 6 months ago.

The researcher also believes the time period around cessation of menses, menopausal status group c (menstruated last between 3 and 12 months ago), should be subdivided into: menses in last 3 months with changes; last menses 3-6 months ago; last menses 6-9 months ago; and last menses 9-12 months ago. The present study does not use all the eight postmenopausal subgroups d (menstruated last from 1 to more than 9 years ago). The validity of these subgroups is questioned because the women expressed difficulty in remembering exactly when their last period occurred with increasing number of years since menses. There also appeared to be less obvious changes in symptoms during the postmenopausal time period. The postmenopausal subgroups used in the present study are: last menses 1-2 years ago; last menses 2-5 years ago; and last menses more than 5 years ago.

Another limitation of McKinlay and Jefferys' study was the women were asked to report on symptoms without asking them if the symptoms were caused by menopause. The present study specifically asks the women to report only those symptoms they perceive as caused or changed by menopause. Since many more symptoms are associated with menopause in the literature than were presented by McKinlay and Jefferys, the present study asks women to respond to a larger number of symptoms and to describe them more fully.

Several other factors that may be significant are assessed in the present study that were omitted in McKinlay and Jefferys' research. One factor is information on hormones which are commonly

prescribed for hot flushes as well as other symptoms of menopause. This researcher believes it is also relevant to include data on other medications, illnesses, and recent stressors.

The fact that a large proportion of women in the study expect problems with menopause implies the need to identify the most appropriate time to educate women about menopause. It would appear that since symptoms tend to occur with changes in menses, women must be informed before these changes occur, and anticipatory guidance offered.

In contrast to the previously discussed research, Neugarten and Kraines (1965) found that when data were collected on 460 women, ages 13 to 65, some of the 28 symptoms generally attributed to menopause did differentiate the menopausal women. In order to avoid the bias evaluation of symptoms that occur because of the stresses of middlecense, Neugarten and Kraines used a control group of nonmenopausal women of the same age as the menopausal women. Menopausal status was determined by the subject, and the women identified themselves as menopausal based on irregularities in the menstrual cycle rather than symptoms. Strengths of this research include the instrument which on retest of 40 subjects in 1-6 month intervals, demonstrated a correlation coefficient of .75 on the total symptoms score and .70 on the Blatt Menopausal Index. The subjects represented all socioeconomic classes, included no physical illness, disability or artificial menopause, and tended to be higher in educational level than the overall United States population.

The 28 symptoms evaluated in Neurgarten and Kraines' study included those on the Blatt Menopausal Index. This index will be discussed later in the review of literature. The symptoms were grouped arbitrarily as somatic, psychological, or psychosomatic. There was an increase in frequency of reported symptoms at two developmental turning points: adolescence and menopause. It is recognized that adolescence and menopause are significant turning points because of developmental stresses and endocrine changes. In Neurgarten and Kraines' study, the adolescent had more emotional symptoms, the menopausal subjects more somatic complaints. The Blatt Menopausal Index clearly differentiated the menopausal group with the menopausal women obtaining significantly higher scores on this measure than any other group. Vertigo, insomnia and fatigue (individual symptoms on the Index), however, as single symptoms, did not differentiate. Several symptoms not on the Index were associated with menopause: weight gain, unusually heavy menstrual flow, breast pain, and feeling of suffocation. This researcher considered these symptoms and included breast pain and a description of menses on the instrument for the present study. Weight gain is a difficult symptom to evaluate and was not included: there are metabolic changes in middle age as well as changes in activity that could account for weight gain. This researcher also believes feeling of suffocation is too vague to evaluate and was not included on the instrument.

Differing from McKinlay and Jefferys' research and providing evidence as did Neurgarten and Kraines, that there is indeed a

menopausal syndrome, is the study by Kupperman et al. (1959). Although the Kupperman et al. research is old, the attitude conveyed is still commonly held, and the Menopausal Index has been cited and used in recent research. Kupperman et al. believe that in menopause an endocrine imbalance occurs when the ovaries are no longer active and this disturbance may produce symptoms which make up the menopausal syndrome. The menopause is a "rather unpleasant and possibly dangerous period of their lives" when women must "suffer" and "bear symptoms" (Kupperman et al., 1959, p. 1636). Kupperman et al. state that symptoms are gradual in onset until the full-blown clinical picture presents; the symptoms of the climacteric diagnose the condition and are the more accurate criteria for determining the efficacy of therapy.

Eleven symptoms were considered by Kupperman et al. as menopausal symptoms, and a scale called the Menopausal Index (MI) was devised for scoring each patient. Kupperman et al. used the MI to evaluate treatment with medications and researched the use of various drugs including placebos in the study. "Placebo reactors" were not used in the evaluation of hormonal therapy. The women who demonstrated an adequate response to placebos were not considered menopausal by Kupperman et al. Placebos were effective in one-third of the patients. Treatment by medication was administered in 4-6 week intervals, and the Index was administered during this time period.

This researcher recognizes several limitations in the Kupperman et al. study. Although the authors stated "placebo

reactors" were eliminated, it was unclear exactly how this was accomplished because in presenting the data, those that responded to placebo and vitamin E were included. Various other combinations of drugs were used including sedatives and hormones. The best results were obtained with androgen and estrogen combination drugs. Kupperman et al. did not define menopause nor did the authors state how many subjects were surgically menopausal. Since different therapies were used over an unspecified period of time, with medication changes occurring every 4-6 weeks, one could speculate that the women's MI would have improved without medication. The authors did not report on a control group. Since the women were seen frequently to manage drug changes and to check progress, there might have been an "Hawthorne effect" (results accomplished from being under concerned observation). A criticism of the Index is that vaginal dryness, breast pain or discomfort, and dyspareunia were omitted. Since these symptoms are directly related to the physiological decrease in estrogen and were discussed in the Kupperman et al. article, it would appear that these symptoms should be evaluated when administering hormones or evaluating menopause. The present study does include these symptoms for that reason.

Ballinger (1976) analyzed sleep disturbance in relation to menopausal status, age, and psychiatric morbidity. The 358 women studied had not had hysterectomies and were 40 to 55 years old. "Cases" and "non-cases" of psychiatric morbidity were classified by the use of Goldberg's (1972) General Health Questionnaire. Menopausal

status groups were divided into premenopause (regular periods), menopause (missed between 3-12 periods), and postmenopause groups (those women with periods less than six years ago and those women with periods more than 6 years ago).

There was a significant increase in difficulty getting to sleep and staying asleep in the postmenopausal group of "non-cases." The "cases" (those women identified as having significant psychiatric morbidity) also showed variation in sleep disturbance according to menopause status, but did not follow the pattern of the "non-cases."

The significance of this study is that change in sleep disturbance with menopausal status occurs regardless of psychiatric morbidity. Sleep disturbance is related to age in the absence of psychiatric morbidity and reaches a maximum in the postmenopausal group. Ballinger concludes that it is reasonable to evaluate the possibility of a physical factor (hormone change) related to changes in sleep pattern. Because of this evidence, this researcher considered sleep disturbance in general a valid symptom to evaluate in the present study.

Donovan's (1951) study is one of the most impressive contributions to the research on menopause, and the results further complicate the understanding of the "menopausal syndrome." Donovan studied 110 women referred to him because of menopausal symptoms. This research is exceptional because of the carefully constructed interviews used to evaluate the current accuracy of the symptoms of these women. A thorough history and description of symptoms was undertaken

in order to correlate the symptoms commonly attributed to menopause to the subjects' menopause.

Some women were treated with placebos; in all cases the symptoms improved during the interview period. Not one patient was discovered to have somatic symptoms which correlated with the physiologic changes associated with menopause. Donovan concluded that: (1) emotional stress symptoms existed only when there was a past history of emotional problems; (2) the reporting of symptoms changed between interviews with the same woman. Donovan finally states, "there is no convincing evidence that a point-to-point causal relationship exists between a somatic symptom and the hormonal alteration of the naturally occurring menopause" (p. 1291). If this is indeed the case, then the use of estrogen to relieve symptoms may be unnecessary for many women. A more appropriate approach when a woman experiences symptoms during menopause is to evaluate the symptoms thoroughly.

The present study offers a method for evaluating symptoms and their effect on a woman's life. The instrument developed for the present study can be used to evaluate any treatment offered to a woman having difficulty adjusting to menopause. It is obvious that more research on the menopause is needed to clarify the different perspectives about the menopausal syndrome.

Greene (1976) provided a basis for grouping the symptoms associated with menopause into vasomotor, psychological and somatic symptoms. Factor analysis was used to clarify the relationship

between the symptoms of menopause. Greene's study population consisted of 50 women, 40 to 55 years old, who complained of vasomotor symptoms as well as a number of other somatic and psychological symptoms. The women were diagnosed as climacteric based on the fact that they were experiencing vasomotor symptoms and menses had stopped within the past 3 years or was currently irregular. The women completed a 30-item Symptom Rating Scale derived primarily from Neugarten and Kraines' (1965) menopausal check list. It included most of the symptoms traditionally thought to be associated with the menopause.

The analysis demonstrated three identifiable and independent factors emerging as significant. Green interpreted Factor I as psychological, Factor II as generally somatic and Factor III as vasomotor. The symptoms were then selected and weighted for scoring according to factor loadings. Twenty-one symptoms were selected in all--11 psychological, 7 general somatic and 3 vasomotor. While symptoms did fall into three distinct categories, there were no corresponding distinct categories of women. Thus, a woman "presenting symptoms at the climacterium must be described in terms of her position on three separate continuums: a psychological, a somatic and a vasomotor one" (Greene, 1976, p. 429).

For the present study some of the symptoms with low factor loadings in Greene's study were omitted--poor appetite and constipation or diarrhea. In order to simplify the questionnaire for the present study, some symptoms were grouped under one symptom complex--

restless or jumpy, worrying needlessly, feeling tense or wound up, irritable, attacks of panic, excitable--were titled nervousness or restlessness. Consequently nervousness or restlessness was weighed more heavily in the scoring. Crying spells and losing interest in most things, analyzed in Greene's study, were evaluated in the life impact score for the present study. Weight gain was omitted as previously explained. Greene's study was extremely valuable in the selection, grouping and scoring of symptoms for the menopausal index score and life impact score for this study.

Grouping the symptoms as in the present research should provide further explanations of the dynamics of each of the three factors. Presented in this study is the relationship between each group of symptoms and the life impact score and extraneous variables collected in the present study. Future studies can evaluate the effectiveness of treatments on each factor.

Treatment of Menopause

Ryan (Ryan & Gibson, 1973) summarizes opposing views as to the necessity of treating the menopause. Ryan acknowledges that one view explains menopause as an annoying but normal occurrence. Another states that if untreated, menopause is a "prelude to accelerated aging, degenerative disease, and a host of physical and psychological disturbances" (Ryan & Gibson, 1973, p. 1). Present medical care, therefore, extends from reassurance and support to prompt initiation of continuous hormonal therapy for every woman postmenopausal (Ryan &

Gibson, 1973). However, Ryan states that hot flashes and genital atrophy are the only manifestations of menopause that respond to estrogen, and detailed information about estrogen effect upon mental function is lacking. The studies on which Ryan reports do not provide evidence that estrogen prevents osteoporosis, although calcium loss from bone can be retarded. Ryan also believes that estrogen has not been shown to prevent heart disease and suggests that data on breast and endometrial cancer and estrogen is insufficient. Because the purpose of the present study is to describe subjective symptoms and their effect on a woman's life, research will be reviewed that is associated with the subjective benefits of estrogen rather than the physiological benefits of estrogen.

In a well designed and controlled research project, Horwitz and Feinstein (1979) studied the relationship between intravaginal estrogen creams and endometrial cancer. Approximately 400 women, who had diagnostic endometrial procedures performed, were sampled. Those who had endometrial cancer were matched by age and race with those who did not have cancer. Vaginal symptoms and estrogen exposure before the development of cancer or the control condition were evaluated on interview. The results from the study did not support an association between the use of intravaginal estrogen cream and endometrial cancer.

Tzingounis, Aksu and Greenblatt (1978) studied estriol, a natural estrogen, in the management of the menopause. Fifty-two postmenopausal women with severe menopausal symptoms, as measured by

the menopausal index by Kupperman et al. (1959), were divided into four groups according to dosage employed. Estriol was administered for a six month period. Improvement in symptoms was dosage-related, being greatest with the highest dosage of estriol. Estriol was well tolerated as demonstrated by other parameters measured in the study-- blood pressure, weight, vaginal smears, cervical mucus, endometrial biopsy, blood studies, urinalysis, Papanicolaou smears, and xeromammogram. The authors conclude that estriol is effective and safe in the management of the menopause.

One limitation of the Tzingounis et al. study was that although the total menopausal index score for the women was comparable at the beginning of treatment, there was a great deal of variation between groups in the severity and occurrence of any one symptom. Thus, it was difficult to evaluate from the information given in the article which specific symptom was improved by any one dosage of estriol. It would also have been preferable to include a control group in the study.

Because of the lack of information on the frequency, type, and duration of the use of menopausal estrogen, Stadel and Weiss (1975) studied a population of menopausal women. The total population consisted of 487 women who met the criteria for being menopausal: they reported that their menstrual periods had stopped or had begun to stop. From the total population, 100 women were then randomly selected and interviewed in detail about their menstrual history, menopausal symptoms, and menopausal use of estrogen. Estrogens had

been used for more than three months by 51% of the women. Premarin or Premarin in combination with methyltestosterone accounted for 52% of the hormone use. Ninety percent of the women who started estrogen use did so in the same year that menopause occurred. Even when the women who had had hysterectomies or menopause prior to age 40 were excluded, the median use of estrogen therapy was for more than 10 years. There was a higher use of estrogens among the women who were surgically menopausal, and more frequent estrogen use was also associated with higher education. A large percentage of those women who reported estrogen use reported "much trouble with hot flushing" as compared to those women who reported no estrogen use.

Stadel and Weiss believe the physicians in this study do not follow a conservative approach to hormonal treatment of menopausal problems considering the estimated frequency of severe menopausal symptoms. Research is not presently available to conclude that this is true throughout the United States. However, it is obvious that the long term consequences of estrogen therapy is of great importance to the health of the women in the Stadel and Weiss study.

As part of the extraneous variables for the present study, information on estrogen treatment was collected on the women. The evidence presented in the studies on the use of estrogen therapy suggests that estrogen use may have an effect on the subjective experience with symptoms and the menopausal index score.

Attitude Toward Menopause

Neugarten, Wood, Kraines, and Loomis (1963) found in pre-pilot exploratory interviews that women varied greatly in their attitudes about and experiences with menopause. Some vehemently denied the importance of menopause; others held considerable fear. It was consistently observed, however, that "middle-aged women were willing, even eager, to talk about the menopause" (Neugarten et al., 1963, p. 142). The women in the study wanted more information, more communication, had heard many "old wives' tales," and knew other women who held irrational fears and suffered greatly. From these interviews and the literature, a checklist was drawn up to measure attitudes toward the menopause. The instrument was refined by means of a pre-test and the revised Attitudes-Toward-Menopause Checklist (ATM) contained 35 items.

Neugarten et al. then administered the instrument to 268 women, 21 to 65 years of age. This group, as compared with the general population of American women, tended to be higher in level of education. The study responses to the ATM did not appear to be related to educational level. When attitudes were analyzed according to age groups, it was found that young women's patterns of attitude toward menopause were different from those of middle-aged women. The authors concluded that it is probably age and experience-with-menopause that is operating together, because there were few differences between those who were experiencing menopause and those who were past menopause, and few differences between the two age groups before menopause.

Age differences followed a peculiar pattern from one cluster of statements to another. In the "negative effect" cluster, there were no significant differences between age groups or between statements. Generally, about half the women agree that menopause has a "negative effect" on a woman. On the second cluster of statements, "post-menopausal recovery," there were sharp age differences. Middle-age women recognize a "recovery," postmenopausal women "feel better," whereas the majority of younger women disagree with this view. Many women expressed considerably uncertainty about the effects of the menopause on sexuality. In general, middle-age women take a more positive view of menopause, and younger women have generally more negative views.

Although the Nuegarten et al. study provides interesting information about attitudes women have about the menopause, attitudes were not a focus for the present research. It is assumed that when the women in the present study respond to questions on the menopausal index scale and the life impact scale, the women's attitudes will be measured indirectly and be reflected in these scores.

Maoz, Dowty, Antonovsky and Wijssenbeek (1970) explored the assumption that a woman's response to menopause would be influenced by her response to earlier psychosexual events (sexual relations, marriage, pregnancy and childbirth). Maoz et al. interviewed 55 women in Israel, 40 to 55 years old. The women were of European (30), Oriental (17) and Arabic (8) ethnic background. Three groups were identified: premenopause (still menstruating), menopause

(irregular menses, hot flashes, and the "subjective feeling" that they were menopausal), and postmenopausal (ceased menses 6 months ago). Information was collected on the subject's attitude toward her femininity, her psychosexual history, and toward the menopausal age and its associated somatic, family, and social problems. The dependent variable was the subject's attitude to menopause which was operationalized in terms of the balance between "gain-loss." Three categories were selected to define the dependent variable: mixed positive, dual, and mixed negative. There were 18 women in the mixed positive category, 6 women in the dual category, and 27 women in the mixed negative category.

Eleven variables were considered as independent variables in the Maoz et al. study. The only independent variable associated with a positive response to menopause was a lack of desire for additional children in Oriental women. There were a number of independent variables associated with a negative attitude to menopause. These were:

1. Being menopausal or postmenopausal
2. Positive attitude about menstruation
3. Having received information about the menarche
4. Happy adolescence
5. Fertility problems
6. Dissatisfaction with sexual activity
7. Desire for more children
8. No current problems
9. Being emotionally disturbed

The general behavior of husband and past serious trauma were unrelated to attitude toward menopause. Serious trauma was not defined by Maoz et al.

Maoz et al. were unable to support their overall hypothesis that women who had coped successfully with previous psychosexual experiences would be able to do so with menopause. Therefore, they concluded, "rigid limitation to psychosexual history data will teach us little about such responses" (Maoz et al., 1970, pp. 39, 40).

Middlence

The research reviewed in the present study has thus far provided evidence that there are many factors which may affect a woman in her middle years. Researchers have analyzed menopause in respect to symptoms, treatments, attitudes, previous psychosexual adjustment, culture, and education. Few studies have focused specifically on women in the middle years.

Levinson (1977) has started some research on women, however he has primarily focused his work on a theory of adult psychosocial development in men. Like childhood and adolescence, Levinson identified the Mid-life Transition as a stage in the lives of all men. The primary concept on which Levinson bases his work is individual life structure which refers to the patterning or design of the individual life at a given time. A life structure, according to this author, has three aspects: (a) the sociocultural world, (b) the roles in the sociocultural world, and (c) the aspects of self both expressed and inhibited (development of personality or specific psychological function).

Using the concept of patterning of the aspects of a life structure, adult development is viewed by Levinson as the evolution

of the life structure, which goes through a sequence of alternating stable periods and transitional periods. The stable periods last 6 to 8 years; the transitional periods 4 to 5 years. Each stable period has its own developmental tasks which reflect the requirements of that time in the life cycle. Changes occur during a stable period but the basic life structure remains intact. During a transitional period the existing structure is terminated, and the goal is to work toward the initiation of a new structure. In order to terminate the existing structure and initiate a new structure, a man is required to reappraise, explore, and make choices that will form the basis for the new life structure.

Levinson used the method of biography in order to study 40 men in the "mid-life decade" (age 35 to 45). Each man was interviewed 5 to 10 times for a total of 10 to 20 hours. The interview covered all segments of living that had importance for the interviewee. The aim of the interviews was to view the subject's life patterning at a given time and over time. The men were selected from four occupational categories and varied greatly in life circumstances.

Levinson's secondary sample was drawn from lives of men described in biographies, autobiographies, poetry, plays, and novels. The analysis and approach to the research was multidisciplinary as professionals in psychology, psychiatry, and sociology collaborated in constructing the study.

Levinson discovered a major transitional period in adult development: Mid-life Transition which ordinarily starts at age 40

and lasts 4 to 6 years. Mid-life Transition serves as a developmental link between early adulthood and middle adulthood (age 40 to 65). "Until the early 30s, a young man has been a 'novice' adult, forming an adult life and seeking a more established place in adult society" (Levinson, 1977, p. 104). Now he begins to settle down, to strive for some goal or life plan, build a satisfactory life structure. At age 39 to 41, there is some "culminating event," either a success or failure, the "settling down period" concludes, and the Mid-life Transition starts and provides a bridge from early to middle adulthood. Some men will make a major change at this stage of life.

During the Mid-life Transition, the life structure comes into question and cannot be taken for granted. "For the great majority--about 80% of our subjects--this period evokes tumultuous struggles within the self and with the external world. . . . Because a man in this crisis is often somewhat irrational, others may regard him as 'upset or sick' . . . the process of reappraisal activates neurotic problems. . . . This profound reappraisal . . . involves emotional turmoil, despair. . . . If he is to make significant changes in love, occupation, leisure, and other important aspects of his life, a man must engage in the process of mid-life individuation" (Levinson, 1977, pp. 107, 110). The Mid-life Transition is a great opportunity for change and growth, and for some men, middle adulthood may be the fullest and most creative season in the life cycle. Levinson points out one question of these findings: "How should occupations, jobs, and careers change during middle adulthood?" (p. 111).

Levinson's study also has implications for the understanding of women's adult development, especially during middle adulthood. What are the "seasons" of a woman's life? When does the Mid-life Transition occur in women? Does it occur when her life structure changes at menopause, as a woman is forced to recognize her child-bearing years are over and, therefore, must reorganize her life and make plans for the remaining years? If a woman spends her early adulthood caring for children and then finds more time for activities outside the home as her children age, will her Mid-life Transition occur as she is forced to fill her empty hours? Might a woman who combines a career with motherhood follow the same stages as a man? How has a woman's husband dealt with his Mid-life Transition and has she been able to adjust to the changes he has made? Presently more research is needed to begin to find the answers to these questions.

Sheehy (1976) concluded from interviews conducted on the biographies of 115 lives (similar to Levinson's method) that there is a predictable period of depression, disequilibrium and a sense of stagnation as a person (men and women) enters the passage to midlife (35 to 45 years). Sheehy believes that women's stages occur at different times than men's and may cause a crisis in relationships. Sheehy believes the midlife woman begins to pick up personality parts that were earlier suppressed and outgrows parts that no longer fit at this time.

Lowenthal and Chiriboga (1972) investigated the assumption that a transition period occurs when the children do not require as

much care. They interviewed 27 men and 27 women whose youngest child was about to graduate from high school (the "empty nest" stage). The average age of male subjects was 51, women 48 years old. The purpose of Lowenthal and Chiriboga's study was to determine "how the period of anticipation of the empty-nest or postparental stage is experienced in comparison with retrospections of past periods and anticipations of the future, and how these perceptions relate to self-concept and mood" (Lowenthal and Chiriboga, 1972, p. 8).

Respondents of Lowenthal and Chiriboga's study filled in a life evaluation chart, rating each year of their lives. Six life stages were delineated: adolescence (ages 12 to 20), young adulthood (21 to 29), "midlife" (30 to 38), early middle age (from 39 years of age to 4 years before the present period), the "empty nest" (4 years before and 4 years after the interview year), and the retirement transition period (60 to 68). Each individual received one score per stage. Among men, all life stages were similar in high points on the chart with the present and adolescence having a slight edge. Among women the period of early marriage and parenthood surpassed the other stages but the present (pre- and postempty nest) was higher than early middle age and more than twice as high as pre- and post-retirement stage.

Lowenthal and Chiriboga found that for men, work accounted for the high points in contrast to women who did not mention work as accounting for a high point: women emphasized personal relationships, especially familial. For those who did consider the present

phase as low (3 women and 2 men), none explained it in terms of the pending departure of the youngest child from home. Illness and marital problems were the reasons given.

Low points on the chart were most frequent in adolescence and early middle age followed by young adulthood. Early middle age low points were ascribed to nervous breakdowns, physical illnesses, financial crises, and marital problems. For the women, the low points for early middle age were sometimes also connected with child-rearing or spouse problems. Consequently the present empty-nest period was perceived by the subjects in Lowenthal and Chiriboga's study as promising because child care responsibilities will be lessened. In general, both men and women reported more highs than lows throughout the life span. However, men had considerably more highs than lows as compared with women. Overall, the empty nest is a period of ascendancy, as is the retirement transition period for both men and women.

As they reviewed their lives, these middle-aged parents were also asked by Lowenthal and Chiriboga to describe turning points or periods of major change. Few singled out the youngest child leaving home as a turning point or a current problem.

Current satisfaction for both men and women tended to be of an expressive or interpersonal rather than an instrumental or material nature. Nearly half identified family as a current satisfaction. There were more women than men among those who reported current satisfaction in instrumental or material areas. Lowenthal

and Chiriboga concluded from this observation that middle-class, middle-aged men in our society have reached their peak occupational level in the 40s and work becomes less of a source of satisfaction. In this respect, there appears to be a reversal of sex differences at this life stage.

The thesis that the departure or pending departure of children may activate latent problems between spouses was next explored by Lowenthal and Chiriboga. The men tended to speak positively of their wives, citing their competence as homemakers even though one-half the women worked outside the home. Women were more likely to describe their husbands in negative terms, criticizing them for poor interpersonal relations. The husbands expressed satisfaction with sexual activity. The majority of women, however, reported less frequency and/or quality of sex and this was frequently viewed as a relief. Because the women did not report problems with menopause, sexual attitude was not interpreted as a reflection of menopause by Lowenthal and Chiriboga.

Subjects were then asked about their current mood and about positive and negative emotional experiences during the past week. Most responded positively as to their happiness. In order to gauge morale, questions were asked about self-concept and self-descriptions. Men tended to project a positive image. Men described themselves as competitive, competent and restless. Women described themselves as disorderly, easily embarrassed, sarcastic and worried. Lowenthal and Chiriboga conclude that the present period (defined as somewhere

between the late 40s to 60 years of age) appears to be a favorable one for both men and women.

Lowenthal and Chiriboga's study is interesting because it is one of the few research studies that deals with attitudes and experiences according to different life stages. The notion that women view the menopause stage more negatively than other stages is not supported. Lowenthal and Chiriboga's findings do support the fact that women experience lows at about the same time as Levinson's Mid-life Transition age period in men (identified as early middle age in this study).

Noteworthy in providing evidence that cultural factors help determine a woman's adjustment to middle age is Dowty's (1972) study of five ethnic groups living in Israel. The five groups represented a continuum from the traditional patriarchal society in which the women were in a subordinate position to the more "liberated," modern orientation. The women of European background (modern orientation) showed the best adjustment in perceived changes to midlife. The women of traditional, oriental societies with well defined roles that they assumed as they grew older were next in adjustment. The poorest adjustment was seen in women in the middle on the traditional-modern continuum. Apparently, in this latter group, the support provided by the traditional family structure had been removed, but not replaced by other opportunities for achievement outside the home.

Families at Mid-Stage

Thus far, the review of literature on the middle years has focused on the developmental changes in an adult including some findings about changes in relationships in adult life. The adult must also be viewed in the context of the family as an interacting member of a family unit. Levinson (1977) states that the family is above all an institution for early adulthood, to rear pre-adult offspring. "What are the functions of the family and what should be its form and its guiding values under the new living conditions of middle adulthood and beyond?" (Levinson, 1977, p. 111).

Chilman (1968) comments that there is little research and theory developed regarding families at mid-stage in the life cycle: their intricacies make it difficult to study families. Commonalities do exist between families at mid-stage. To describe a typical family of the 1970s is difficult, however, because of the lack of research in recent years on the family. Middle-aged parents commonly believe the family situation is deteriorating (Chilman, 1968). Past studies suggest that "marriage, at mid-stage, may represent a critical period which becomes less adverse at a later point" (p. 300). Chilman suggests that "the family venture probably is stormy for most families, at mid-point in the family cycles. One reason that this is likely to be true is that everyone concerned is apt to be at a 'dangerous stage' in his or her development" (p. 310). Middle stage individuals are struggling for their own identity as individuals along with maintaining ties with both the younger and older generations.

Parent roles change in relation to the teens in the family. Chilman cites the needs of the adolescent as contributing greatly therefore to the problems, as parents differ and argue about the children. Sex-anxiety on the part of both men and women in their middle-aged years also contributes to the downward trend in marital satisfaction. Because this is a time of occupational restlessness in men and women go to work, there is a need for role versatility and capacity to balance competing roles.

A limitation of Chilman's conclusions is that she cites old research in order to make these conclusions and "research has not dealt with the dynamics of family life during the middle years of marriage" (p. 305). The assumption remains: mid-stage families are in a crucial stage of development. It is unfortunate that there is a dearth of research on the subject.

The present study contributes to the understanding of families in mid-cycle by including a series of questions on family interactions as they relate to a woman experiencing menopause. If disturbances in family interactions are occurring at this time and can be recognized, then, in further research, interventions to improve these interactions can be investigated. Extraneous variables collected for the present study will also aid in describing the family at mid-cycle.

Stress

"Life events, whether desirable or undesirable, are conceived of as a life change that invariably requires readjustment.

Excessive changes make adjustment difficult and consequently produce stress" (Vinokur and Selzer, 1975, p. 329). In trying to understand the concept of illness onset, which includes both "medical" and "psychological" illness, studies have related illness onset to life stress. Researchers have reported health changes following significant changes in ongoing life patterns of an individual (Smith, Cullison, Polis & Holmes, 1978).

The development of the Social Readjustment Rating Scale (SRRS) was the first part of a study by Rahe (1969). A list of life changes (events which require significant changes in the on-going life pattern of the individual) were compiled including items such as marriage, divorce and death. Subjects were asked to evaluate the significance of these life events in terms of the extent of the associated adaptive or coping behavior required by the life changes. The tool was scaled by 374 persons who assigned units to the events: as the number of assigned units increased, a greater degree of expected adjustment was assumed to be required for the event. Although Rahe acknowledges that the psychological significance of life events varies from one individual to another, attitude about the event was not included in formulating the instrument.

Data collected by Rahe through use of the instrument revealed that health changes followed a life crisis by about one year, with six months being the most significant time period. Life crises were divided into three groups: a mild life crisis (150 to 199 life change units), a medium life crisis (200 to 299 life

change units) and a high life crisis (300-plus life change units) (Pelletier, 1977). The 84 subjects Rahe studied represented 32 major health changes. Ninety-seven percent of the health changes were associated with at least a mild life crisis. Health changes were significantly associated with higher life change units; the risk of occurrence of health change was directly related to the magnitude of life change units.

For the present study, stress was assessed for the past year by including questions which represent life changes and account for high units on the SRRS. Stress was assessed to analyze the relationship between life changes interpreted as stress and the menopausal index score and the life impact score.

Life Impact Score--A Measure of Interference With Function

Various scaling indexes have been devised in an attempt to measure health status. Chambers, Sackett, Goldsmith, Macpherson and McAuley (1976) used social function as a measure for this purpose. Krischer (1976) compiled a series of attributes that he believed represented a health, illness, or injury status.

Gilson, B., Gilson, J., Bergner, Bobbitt, Kressel, Pollard and Vesselago (1975) developed the Sickness Impact Profile (SIP) to serve as a "behaviorally based measure of sickness-related dysfunction . . . to provide an appropriate, valid and sensitive measure of health status that will aid in assessing the outcome of health care services" (p. 1306). It is a measure of behavioral dysfunction in usual daily activities that indicates health status.

These authors assume that the patient's behavior is a manifestation of the impact of sickness, and how the patient perceives his sickness forms the basis for his response to the SIP. "The behavioral or performance dimension of sickness as perceived by the individual provides a singularly appropriate basis for an outcome measure of health care for several reasons" (p. 1306). For example, the behavior of an individual is a manifestation of the impact of illness reflecting the effects of symptoms as well as their effects on daily life activities. Such an instrument can be used to classify individuals into categories of health status.

The SIP appears to be well constructed and contains a relatively complete inventory of items. The SIP was constructed by incorporating both professional and lay perspectives of the impact of sickness. Statements describing behavioral dysfunction (sickness-related changes in behavior) were collected directly from 1000 patients, health care professionals, individuals caring for patients, and the apparently healthy, as well as from previously designed function assessment instruments. The specific statements of behavioral change obtained from these sources totaled 1250 and were subsequently grouped yielding 312 unique items. Each item described a behavior or activity which specified a dysfunction. The items were then categorized into 14 groups describing dysfunction in an area of living or a type of activity. Judges scaled the items in terms of the severity of dysfunction.

When the SIP was pilot studied, it was found that the instrument had broad applicability: all subjects found at least one item that described them. Test-retest correlations demonstrated high reliability of .80 to .88. Preliminary evidence of validity was demonstrated by relating the SIP score to a self-assessment of sickness for each subject and category of medical care.

For the present study, nine categories of the SIP were chosen as appropriate areas to evaluate the impact of menopause on a woman's life. Areas omitted were those that described activities that are disrupted to the point of severe dysfunction as weighted by the judges when developing the SIP. For example, ambulation, nutrition, mobility, the ability to communicate, intellectual functioning and personal hygiene describe severe dysfunction and are not areas the researcher believes would be affected by menopause. However, social interaction, sleep and rest activity, usual daily work, household management, leisure pastimes and recreation, interactions with family members, and emotions, feelings and sensations are areas the researcher believes might be affected by menopause. The life impact score for the present study includes questions related to function in these aforementioned categories.

Weissman and Paykel (1974) studied depressed women by focusing on the woman's social relationships and the effects of the illness on the woman's behavior in role performance. Weissman and Paykel discovered that the illness could be evaluated by measuring the woman's social adjustment or her capacity to perform her social

obligations and her reactive responses to those around her. These authors developed a rating scale to evaluate the role areas of worker, social and leisure, extended family, and marital and parental family unit.

Role areas evaluated on the LIS for the present study were borrowed from Weissman and Paykel. For this study the homemaker role was included in the work role. Social role was maintained as a separate category. Family interactions, as labeled on the life impact score, included the extended family and parental role. Sexual activity on the life impact score is synonymous with the marital role. Many of the content areas Weissman and Paykel identified as important areas to evaluate were included.

Summary

The review of literature on the menopause demonstrates the lack of agreement on what symptoms should be attributed to menopause. Rationale was provided for the development of the instrument which measures menopausal symptoms (menopausal index score) for this study. The present study offers a new approach to evaluation of symptoms by asking the woman to identify if her symptoms are caused by menopause. We are at the beginning stages in an understanding of the middle years and the effect of menopause on a woman's life. This research seeks information that will describe a woman experiencing menopause in terms of her symptoms and the effect on her life. Consideration is also given to the relationship between stress (and the extraneous variables identified in this study) and a woman's symptoms and selected life activities.

CHAPTER IV

METHODOLOGY AND PROCEDURE

Overview

This study describing 40 women experiencing natural menopause was undertaken to determine the relationship between the symptoms a woman attributes to her menopause and her perception of their effect on her performance of selected life activities. The population was a convenient sample primarily selected from women seen by physicians during routine health care visits in three sites in the community of Grand Rapids, Michigan.

The questionnaire developed for the study measured the independent variable, a woman's menopausal index score, which was correlated by means of the Pearson Product-Moment Correlation with the dependent variable, a woman's life impact score. Extraneous variables (age, occupation, household composition, ages of children living at home, current and past use of hormones, medical conditions, stress, menopausal status, contact with other menopausal women, and extent menstrual periods are/were a problem) were assessed by the instrument and correlated with the menopausal index score (MIS) and the life impact score (LIS).

A discussion of the variables measured in the study and scoring, the instrument, hypotheses and questions posed,

characteristics of the population and settings, data collection procedure, and human rights protection is included in this chapter.

Operational Definitions of the Variables

Independent Variable (MIS) and Scoring

The independent variable is a score (MIS) reflecting symptoms experienced by a woman which she attributes to her menopause. The symptoms include changes in menses, hot flashes and/or sweating, paresthesia, insomnia, nervousness, depression, vertigo, fatigue, arthralgia and myalgia, headache, palpitations, formication, breast pains or discomfort, dyspareunia, vaginal dryness, and poor memory.

The instrument used to measure the independent variable (MIS) (see Appendix A) is a variation of the Menopausal Index (Kupperman et al., 1959). The most prominent (11) symptoms of menopause were used by Blatt (Kupperman et al., 1959) to formulate a numerical conversion index designated as the Menopausal Index. The Index is scored by computing the severity of symptoms as well as their relative significance as a symptom of menopause. A woman with multiple and severe menopausal symptoms has a high score, and a woman with few symptoms that are mild has a low score.

For the present study a woman rated selected symptoms as being absent, mild, moderate, or severe. The scoring was 0-3 (absent = 0, mild = 1, moderate = 2, and severe = 3) on any given symptom except for the question on changes in menses. For this question no points were given if there were no changes in menses,

1 if periods had become irregular and/or flow had changed, and 2 if periods had stopped.

In calculating the total MIS, the score on each symptom plus the menses score was totaled with each symptom carrying equal weight with some exceptions. The exceptions to weighting were for hot flashes and/or sweating which was 4 times the weight and paresthesia, insomnia, and nervousness which were 2 times the weight. The Menopausal Index (Kupperman et al., 1959) and Greene's (1976) research provided rationale for the weighting of symptoms.

The Menopausal Index (Kupperman et al., 1959) was intended to express the status of a menopausal woman. Vasomotor symptoms, paresthesia, insomnia, and nervousness were believed by Kupperman et al. to be the most prominent symptoms of menopause and cause the patient the greatest difficulty. Vasomotor symptoms bring menopause to the attention of the patient and therefore was weighted the heaviest in the scoring. The remaining symptoms on the MI (depression, vertigo, fatigue, arthralgia and myalgia, headache, palpitations and formication) alone could be due to another condition but in combination suggest menopause. Therefore, these latter symptoms are not weighted as high by Kupperman et al. as are paresthesia, insomnia, and nervousness.

Greene (1976) analyzed the symptoms of menopause and weighted the symptoms for scoring according to factor loadings in three categories (psychological, somatic and vasomotor). For the present study, weighting was assigned to symptoms for scoring by combining the findings of Kupperman et al. and Greene. The symptoms with high

factor loadings were assigned more weight. In most cases Kupperman et al. and Greene were consistent with each other in the weighting of symptoms. In the cases where these authors differed, evidence provided by the review of literature influenced this researcher's judgment in the grouping and scoring of symptoms.

The highest possible score on the 16 selected symptoms is:

<u>Symptom</u>	<u>Conversion</u>	<u>Severity</u>	<u>Total</u>
Hot flashes and/or sweating	4	x 3	= 12
Paresthesia, insomnia, nervousness	2 (3)	x 3	= 18
11 remaining	1 (11)	x 3	= 33
Menses Total Possible		2	= <u>2</u>
	TOTAL Possible		= 65

The higher the score, the more severe were the symptoms.

Greene (1976) studied the symptoms associated with the menopause to evaluate the relationship between the symptoms. By applying the factor analysis statistical technique, he was able to demonstrate three identifiable independent factors emerging as significant in relation to the symptoms. Greene interpreted Factor I as psychological, Factor II as generally somatic and Factor III as vasomotor. This researcher selected, grouped and as previously explained scored symptoms in a manner that would make use of the results of Greene's study.

The symptoms were classified as either psychological, somatic, or vasomotor. Therefore, there were separate scores calculated for each of these categories which when totaled equaled the menopausal

index score (MIS). The psychological symptoms are: insomnia, nervousness, depression, fatigue, arthralgia and myalgia, palpitations, and poor memory. The vasomotor symptom is hot flashes and/or sweating. The somatic symptoms are menses changes, paresthesia, vertigo, headaches, formication, breast pains or discomfort, dyspareunia and vaginal dryness.

The highest possible psychological score is:

<u>Symptom</u>	<u>Conversion</u>	<u>Severity</u>	<u>Total</u>
Insomnia, nervousness	2 (2)	x 3	= 12
Depression, fatigue, arthralgia and myalgia, palpitations and poor memory	1 (5)	x 3	= 15
TOTAL Possible			= 27

The highest possible vasomotor score is:

<u>Symptom</u>	<u>Conversion</u>	<u>Severity</u>	<u>Total</u>
Hot flashes and/or sweating	4	x 3	= 12

The highest possible somatic score is:

<u>Symptom</u>	<u>Conversion</u>	<u>Severity</u>	<u>Total</u>
Menses changes		2	= 2
Paresthesia	2	x 3	= 6
Vertigo, headaches, formication, breast pains or discomfort, dyspareunia, vaginal dryness	1 (6)	x 3	= 18
TOTAL Possible			= 26

The woman was also asked to add any other symptoms she attributed to the menopause. The other symptoms were described in narrative but not figured into the scoring.

Women were asked to describe the frequency and duration of their symptoms, as well as how symptoms have changed. The scoring of these descriptions was arbitrary. A higher score in the three descriptions of symptoms meant the woman experienced them more frequently, or for a longer period of time, or they were getting worse (see Appendix A, pp. 5 and 6 of the Questionnaire for a sample of the scoring). Dryness of vagina and poor memory were not included in the frequency evaluation because these symptoms are difficult to quantify in this manner since they are not cyclic phenomena.

Dependent Variable (LIS) and Scoring

The dependent variable in this study is the total life impact score (LIS) a woman achieved on the written questionnaire. The life impact score is a measure of the change in a woman's performance of selected life activities because of menopausal symptoms. The life impact score reflected the menopausal woman's perception of how she believed her symptoms were interfering with her performance in recreational (social) activities, family interactions, homemaker/job role, and sexual activity.

Each section of the LIS was titled for the subject to suggest that she focus on that part of her life for a period of time while answering the associated questions. The researcher believed this would assist the woman to respond more effectively to the dimension

of her life being analysed in each section of the questionnaire. The topics were ordered for answering from the less threatening questions to the most threatening. It was hoped that the subject would gradually become more comfortable about answering the personal items about sexual activity. The questionnaire took approximately 30 minutes for the subjects to complete.

The woman could answer 41 questions using a Likert type scale for her responses (see Appendix A for Questionnaire, p. 8 through 13 used to measure the dependent variable). There were five possible answers to each question. The scoring allowed up to and including 5 possible points on each question. Therefore, the highest possible raw score was 205 for the LIS. The higher the score, the more impact the menopause had on the woman's performance of the selected life activities (see Appendix A, Questionnaire, pp. 8 to 13 for the points assigned for the responses to each question).

As well as a total LIS, separate scores were calculated for each of the selected categories. Nine questions were included on recreational (social) activities with the highest possible score equaling 45. Family interactions included eight questions with the highest score possible being 40. Homemaker role included six questions with a possible high score of 30. Job role had seven questions, therefore the highest possible score was 35. Sexual activity included seven questions that referred to sexual activity regardless of interaction with a sexual partner and totaled a possible score of 35. The other part of the sexual activity section included

four questions that referred to interaction with a sexual partner with the highest possible score of 20.

It was possible that the woman was not able to answer all the questions. If she did not have a job outside the home and/or no sexual partner, the raw score was adjusted so that comparisons could be made between women in different life situations. In order for this to be accomplished, each woman had scores called homemaker/job role and total sexual activity. The highest possible homemaker/job score was homemaker score of 30 plus job score of 35 which equals 65. For women who did not have a job outside the home, their homemaker score was proportioned to equal a possible high score of 65. The highest possible total sexual activity score was sexual activity of 35, activity with a partner of 20 which equals 55. For women who did not have a sexual partner, their sexual activity scores were proportioned to equal a possible high score of 55. (See Appendix A, p. 14 for examples of the calculations of homemaker/job score and total sexual activity score using proportions when the subject had no job outside the home and/or no sexual partner.)

Extraneous Variables

A number of descriptive items were collected by means of the questionnaire and classified as extraneous variables. In this category, demographic data included age, ethnic group and national origin, marital status, family income, education, occupational preparation, volunteer work and employment. Household composition and number and ages of children were also described. Data to describe the woman's

health status included information about the use of hormone supplements, birth control methods, current medication and conditions treated by a physician, and recent stresses. General understanding, experience, and attitude data about the menopause included the woman's perception of why she thought she was in the menopause, recent contact with other menopausal women, and if she feels her menstrual periods are/were a problem for her. The researcher believed that each of the extraneous variables may have an effect on the way the woman responded to the MIS and/or LIS (see Appendix A for Questionnaire, pp. 1, 2, 3, 4, used to collect this data).

In summary, raw data on each subject included descriptive information classified as extraneous variables. The extraneous variables included demographic data, information on health status, and some general information on understanding and experience with menopause and attitude toward menses. Each woman also had a score which reflected her menopausal symptoms (MIS) with individual scores on psychological, somatic, and vasomotor symptoms. Each subject had a life impact score (LIS) with individual scores on family interactions, homemaker/job role, social (recreational) activities, and sexual activity.

The Instrument

No standard method for collecting data about the menopausal syndrome has been developed. The review of literature describes studies utilizing a variety of data-gathering techniques including variations of the Menopausal Index (Kupperman et al., 1959). Moos

(1968) found that women could reliably report menstrual symptoms they have experienced for a one month period. Therefore, the instrument developed for this study measured a woman's perception of the severity of her symptoms in the past month that she attributed to her menopause (MIS). Another section measured the effect she believed her menopausal symptoms had on her performance of selected life activities (LIS). A third section of the instrument collected extraneous variables that may have an effect on the MIS and LIS scores (see Appendix A for instrument).

The instrument is in the form of an opinion scale. That is, there are no correct answers. The answers measure a woman's response to menopause on a continuum from negative to positive. Therefore, the instrument measured personal reactions which are subjective in nature (Crano & Brewer, 1973). In order to measure differences between subjects, the respondents were assigned to some specific point on the hypothetical continuum according to their responses to the questions. The specific point is reflected in the woman's score.

The Likert model is the most popular approach to generation of reliable attitude measurement devices (Crano & Brewer, 1973). It is effective for internal consistency and temporal stability. On each item a respondent must indicate his level of agreement or disagreement. The Likert model was chosen for this study. The instrument is structured so that data can be quantified to cover the objectives in question. There are only a few open-ended questions. For example, one question asks the woman to list symptoms she has because of menopause that are not on the questionnaire.

The questions chosen to make up this instrument have been derived from the review of literature reflecting expert opinions about the menopause. In trying to achieve content validity, the only level of validity appropriate for this study, items should represent all possible positions on the particular domain under consideration (Crano & Brewer, 1973). Therefore, content validity is subjective in that questions have been chosen for inclusion in the measuring instrument by the researcher which is believed to sample the kinds of things about which conclusions can be drawn. Committee members were also used as expert judges to varify content validity.

Two threats to content validity were considered when constructing this instrument. In order to decrease one threat to validity, that of social desirability, the respondent's answers were confidential so that the respondent would be less likely to answer the way she thought she should answer. Another threat to validity is the concept of acquiescence. It has been found that respondents tend to agree with positively stated questions (Crano & Brewer, 1973). This threat was minimized by wording some questions in the negative as well as in the positive.

Reliability is the degree of interrelationship between items on the questionnaire (Crano & Brewer, 1973). Reliability is evaluated in Chapter V by measuring the degree of internal consistency or interrelatedness among items. The technique used is coefficient Alpha. Coefficient Alpha is the average inter-item correlation of all items constituting a scale (Cronbach, 1951). It is an estimate

of the reliability of the total test when each item is employed as a test in the generation of this estimate.

Therefore, questions were grouped according to each of the underlying concepts measured. For example, in evaluating the questions on the symptoms of menopause, the questions which relate to psychological symptoms were analyzed as a group for internal consistency. The vasomotor symptom was not tested for reliability because the review of literature suggests that it is a reliable symptom of menopause. The somatic symptoms were also grouped to test for internal consistency, or the relationship between symptoms. A similar method was used to evaluate the internal consistency of the questions making up each concept of the LIS--recreational (social) activities, family interactions, homemaker/job role, and sexual activity. If coefficient Alpha is in the .80s then it is a satisfactory criterion of internal consistency and fulfills the basic requirement for operationalization of the concept (Crano & Brewer, 1973). In order for a total score to be a reliable indication of attributes, the items must be related so that responses are related. "The importance of internal consistency is based upon the assumption that a subject's responses to all items on an opinion scale will be summed in deriving a total score" (Crano & Brewer, 1973, p. 234). Items should be positively correlated otherwise the additive process would be illogical.

Temporal stability was not evaluated. The researcher believes that a test-retest result would not be valid, because the suggestion of symptoms on the test may cause a woman to be more aware

of symptoms and recognize more symptoms on the retest. This was also believed to be true of the questions that make up the LIS.

The instrument was pre-tested by administration to four women in the age group associated with menopause. The instrument was refined for clarity and to improve appearance using the results of the pretest and also incorporating the suggestions of the expert committee members. This was done so as to decrease the threat to validity of the instrument that might have occurred if the instrument were not understandable or unappealing. The pretest demonstrated that the questions were successful in eliciting a range of responses.

Hypotheses and Questions Posed

The following hypotheses were tested in this study:

1. There is no relationship between a woman's menopausal index score and her life impact score.

Subhypothesis

- a. There is no relationship between a woman's menopausal index score and her family interactions score.
- b. There is no relationship between a woman's menopausal index score and her recreational (social) activities score.
- c. There is no relationship between a woman's menopausal index score and her job/homemaker role score.
- d. There is no relationship between a woman's menopausal index score and her sexual activity score.

2. There is no relationship between any one of the three categories of scores of menopausal symptoms (MIS) and the life impact score.

Subhypothesis

- a. There is no relationship between the psychological symptoms score of the MIS and the life impact score.
 - b. There is no relationship between the vasomotor symptom score of the MIS and the life impact score.
 - c. There is no relationship between the somatic symptoms score of the MIS and the life impact score.
3. There is no interrelationship between any one of the category scores of the MIS and any one of the four indices of the life impact score (psychological symptoms, vasomotor symptoms, somatic symptoms, family interactions, recreational [social] activities, job/homemaker, and sexual activity).
 4. There is no relationship between any of the extraneous variables (age, occupation, household composition, ages of children living at home, current and past use of hormones, medical conditions, stress, menopausal status, contact with other menopausal women, and extent menstrual periods are/were a problem) and the menopausal index score or life impact score.

The order to test the hypotheses, the Pearson Product-Moment Correlation Coefficient was used. The Pearson Product-Moment Correlation is the most frequently used index to describe the degree of correlation in any bivariate distribution (Games & Klare, 1967). The coefficient (r) is computed by using the relative positions of each subject on two measures in order to compare the positions. The correlation coefficient thus expresses the degree of linear

relationship between two variables. Scores on the MIS and each symptom category were compared with scores on the LIS and each index category to demonstrate the relationship between the scores. The extraneous variables were compared to the scores on the MIS and LIS in like manner.

Data were summarized in order to answer the following questions:

1. What are the symptoms menopausal women attribute to the menopause?
2. What are the characteristics of the symptoms-- severity, frequency of symptoms and length of time symptoms are experienced?

Population

The total population from which the sample was drawn was every woman patient, 40 to 60 years old, seen in the practice of a selected general practitioner and two gynecology group practices for a routine health care visit within a one month period. Although these offices were not selected at random, they are representative of the larger population of greater Grand Rapids and provide care to those representative of women who seek private practitioners for health care.

All socioeconomic, racial, and religious groups were possible for selection from this conservative community with a population of moderate size. Grand Rapids has a population of 200,000. Kent County has a population of 400,000: urban 300,000; rural 90,000. The community of Rockford is served by the general practitioner and encompasses 5,000.

It was possible that since the physicians' offices had not been selected randomly, their practice may have attracted a particular type of patient. Neither of the physicians had any consistent program for menopausal women. The gynecologists prescribed hormones quite freely. The general practitioner tended to be conservative with hormone use. When a woman identified herself as having "trouble" with the menopause, all the physicians said they then talked with her about it. One physician in each of the gynecology practices distributed a patient education booklet called Menopause and Estrogens (Davis, 1969). The booklet included advice that was comprehensive of a woman's general health needs at this stage of life. The booklet was offered when a woman was having difficulty. One gynecologist stated that he sometimes meets with the patient's husband if there are difficulties so that the husband can be encouraged to provide understanding and support to his wife. In general, unless a woman would broach the subject, the menopause was not discussed. The researcher's impression of the physicians was that they were very friendly and cared a great deal about their patients. They have the reputation in the community of being amicable. Each gynecology practice has one physician who had been in practice for many years. One is recognized in the community for his contribution to the education of various health care providers.

The physicians and staff were very supportive and interested in the research process. They made suggestions as to how patients could be selected from other possible sources. They took an interest in the patients who participated in the study and on occasion used

the completed questionnaire as a means to better understand their patients. In general, the physicians were easy to talk to and appeared to be well liked by their patients. The atmosphere with the staff in the offices was very pleasant.

Subjects--Criteria for Selection

All the subjects were experiencing at least one symptom they attributed to natural menopause. These women were not to have had major surgery within the last six months nor vaginal or bladder surgery within the last year. They also had no major illness (diabetes, hypertension, cardiac disease, cancer or major psychological disease) diagnosed within the last six months. Loss of a significant other in the past year by divorce or death excluded the subject from the study. These aforementioned exceptions to the sample were inappropriate because the researcher believes their LIS and MIS may have reflected their adjustment to these confounding stressors. Routine health care was the primary reason the subject was visiting the physician's office.

Procedure

The cooperation of the receptionists in the physicians' offices was elicited by the researcher. The receptionists thus asked the age of any woman making an appointment for a routine visit. The age was recorded next to the reason for the appointment in the appointment book. Each afternoon during the month of data collection, the researcher checked via phone with the receptionists to see if a possible subject was scheduled for the following day. The

receptionists knew which women had had hysterectomies and consequently were able to screen this group so that women who did not meet the preliminary criteria were not approached by the researcher.

The researcher was in the physicians' offices at the time of the appointment for each woman meeting the preliminary criteria. The woman was told by the researcher that women who are in the menopause were being studied. The researcher asked each patient if she would be willing to participate. The researcher answered the patient's questions in order to clarify the research or items on the questionnaire. When the patient agreed to participate, the subject then signed the consent and completed the questionnaire. The whole process occurred in the physician's offices in private, and the researcher answered questions at any time.

After the subject completed the questionnaire, the researcher separated the questionnaire from the consent form. The subject was given the Investigators Statement and a copy of the Consent Form (see Appendix B). The researcher then answered any further questions the subject might have had about the research, questions on menopause, and other issues in general so as to allay any possible concerns the question may have elicited.

The questionnaires were coded by assigning a number which included the site. The same number that was on the questionnaire was on the consent form so that if a woman wanted to withdraw from the study and called the researcher, the woman's questionnaire could be identified. The questionnaires were stored in the researcher's

home accessible to the researcher only. Data was recorded from the questionnaires in aggregate form.

At times it was necessary to deviate from the above procedure because fewer patients were available than was anticipated, and the researcher wished to have the largest number of subjects possible in the month period of data collection (see Appendix C for the variations).

Human Rights Protection

Procedures were carried out in order to protect the rights of the subjects as established by the Michigan State University Committee on Research Involving Human Subjects (UCRIHS). The committee is concerned with the potential risks to subjects, voluntary nature, consent and merit of the research. An explanation of the research, purpose, and the protection of the subject was explained in written form on the Investigator's Statement (see Appendix B) which the woman kept. The statement included the voluntary nature of the research, risks, confidentiality, benefits, privacy afforded, and how long it would take to complete the questionnaire. Questions were answered by the researcher and then the consent form was signed.

After the subjects completed the questionnaires, they were allowed to ask questions and talk about the menopause in order to allay any concerns the questions may have elicited. The subject was given a copy of the consent which included the researcher's name and telephone number so that the subject could call the researcher if necessary to ask further questions or withdraw from the research.

The materials were coded so that the patient's name was not associated with the answers, and the questionnaires were stored in such a way that they were available to the researcher only.

The research was presented to the Human Subjects Review Committee of the School of Nursing and to UCHIRS and approval was given for the research project (see Appendix D for further explanations and forms completed).

Summary

Chapter IV included a discussion of the variables measured in the study and the scoring. The instrument was explained as well as the technique for data analysis. The hypotheses and questions were presented. The characteristics of the population and setting, data collection procedure, and human rights protection were discussed. In Chapter V data is presented and analyzed in relation to the research hypotheses and questions.

CHAPTER V

DATA PRESENTATION AND ANALYSIS

Overview

The data presented in this chapter describe the study population and demonstrate the relationship between the symptoms a woman attributes to her menopause and her perception of their effect on her performance of selected life activities. As well as a description of the menopausal symptoms, data are also presented to explain the relationship between 10 extraneous variables identified in the study, the symptoms, and their effect on a woman's performance of selected life activities. The study population was an available sample of 40 white women of menopausal age primarily from physicians' offices.

In Chapter V data are presented and analyzed for the following hypotheses:

1. There is no relationship between a woman's menopausal index score and her life impact score.

Subhypothesis

- a. There is no relationship between a woman's menopausal index score and her family interactions score.
- b. There is no relationship between a woman's menopausal index score and her recreational (social) activities score.
- c. There is no relationship between a woman's menopausal index score and her job/homemaker role score.

- d. There is no relationship between a woman's menopausal index score and her sexual activity score.
- 2. There is no relationship between any one of the three categories of scores of menopausal symptoms (MIS) and the life impact score.

Subhypothesis

- a. There is no relationship between the psychological symptoms score of the MIS and the life impact score.
- b. There is no relationship between the vasomotor symptom score of the MIS and the life impact score.
- c. There is no relationship between the somatic symptoms score of the MIS and the life impact score.
- 3. There is no interrelationship between any one of the category scores of the MIS and any one of the four indices of the life impact score.
- 4. There is no relationship between any of the extraneous variables and the menopausal index score or life impact score.

Also included in this chapter is an analysis of the reliability of the instrument and a summary of the chapter.

Descriptive Findings of the Study Population

The study population consisted of 40 white women of menopausal age drawn primarily from physicians' offices. Although they ranged in age from 41 to 68 years old, as can be seen from Table 1, 30% of the women were 45 to 49 years old and 45% were 50 to 54 years old. This accounted for 75% of the subjects.

TABLE 2.--Family Income of Participants for Past 12 Months (n = 40).

Income	Number of Participants	Percentage
\$ 5,000 - 9,999	4	10.0
10,000 - 14,999	8	20.0
15,000 - 24,999	14	35.0
25,000 and above	13	32.5
Retired	<u>1</u>	<u>2.5</u>
TOTAL	40	100.0

Educational level for the women ranged from not completing high school to more than 4 years of college. One (2%) had technical training, two (5%) did not complete high school and six (15%) completed more than 4 years of college. As can be seen from Table 3, the remaining 67.5% is made up of high school graduates--18 (45%), less than 2 years college--six (15%), 2 to 3 years college--five (12.5%), and 4 years college--two (5%).

Twenty-three women (57.5%) were employed full time or part time for money outside the home. There were five (12.5%) nurses. Other occupations represented included blue collar--three (7.5%), white collar--16 (40%), service--four (10%), small business--one (2.5%), sales--two (5%) and teachers--three (7.5%). The remaining 15% were housewives (6). See Table 4 for summary of these data.

TABLE 3.--Educational Level of Participants ($n = 40$).

Education	Number of Participants	Percentage
Did not complete high school	2	5.0
High school	18	45.0
Less than 2 years college	6	15.0
2-3 years college	5	12.5
4 years college	2	5.0
More than 4 years college	6	15.0
Technical training	<u>1</u>	<u>2.5</u>
TOTAL	40	100.0

TABLE 4.--Extraneous Variable 2: Occupations Represented by Participants ($n = 40$).

Occupation	Number of Participants	Percentage
Registered nurse (professional	5	12.5
Blue collar	3	7.5
White collar	16	40.0
Service (counselor, social work, occupational therapist	4	10.0
Small business	1	2.5
Sales	2	5.0
Teacher	3	7.5
Housewife	<u>6</u>	<u>15.0</u>
TOTAL	40	100.0

There were seven different types of living arrangements among the 40 study participants. No one had grandchildren living at home with them. Thirteen (32.5%) of the women lived with their spouses alone or with their spouses and unmarried children (42.5%). As can be seen from Table 5, two (5%) live alone, one (2.5%) lives with spouse and relatives, two (5%) live with relatives, two (5%) live with an unrelated person and three (7.5%) live with their children.

TABLE 5.--Extraneous Variable 3: Household Composition of Participants (n = 40).

Household Composition	Number of Participants	Percentage
Live alone	2	5.0
Live with spouse	13	32.5
Live with spouse and unmarried children	17	42.5
Live with spouse in home with relatives	1	2.5
Live with relatives	2	5.0
Live with unrelated person	2	5.0
Live with children	<u>3</u>	<u>7.5</u>
TOTAL	40	100.0

Four (10%) of the women had no children. Seven (17.5%) had one to two children. Twenty-three (57.5%) had three to four children and the remaining five (12.5%) had more than four children. Table 6 includes data on number of children.

TABLE 6.--Number of Children of Participants ($n = 40$).

Number of Children	Number of Participants	Percentage
None	4	10.0
1 to 2	7	17.5
3 to 4	23	57.5
More than 4	5	12.5
No data	<u>1</u>	<u>2.5</u>
TOTAL	40	100.0

Of the 20 (50%) women who had children living at home, 14 (35%) of the women had children between 10 and 20 years of age. One woman had a child less than 10 years old as well as children 10 to 20 years old living at home. One (2.5%) woman had children in both the 10 to 20 year range and the 20 to 30 year range. Four (10%) had children older than 20 years old living at home (see Table 7).

TABLE 7.--Extraneous Variable 4: Ages of Children Living at Home with Subjects ($n = 20$).

Ages of Children Living at Home	Number of Participants
5 to 10 and 10 to 20	1
10 to 20	14
10 to 20 and 20 to 30	1
20 to 30	<u>4</u>
TOTAL	20

Five (12.5%) women are currently taking hormone supplement for the menopause with one (2.5%) taking it less than 6 months, two (5%) 6 months to 1 year, and two (5%) from 1 to 2 years. Seventeen (42.%) had taken hormones in the past. Except for one (2.5%) who had taken hormones 6 months to 1 year, those women who remembered how long they had taken hormones fell into approximately two even groups: those who had taken hormones for less than 6 months (12.5%) and those who had taken it more than 2 years (15%). With few exceptions, Premarin was the hormone used by the subjects. Fourteen (63.5%) of the 22 women who were currently taking or had taken hormones for the menopause expressed problems with its use. Four (18%) of the 22 women exposed to hormone reported spotting, two (9%) breast tumors. Other complaints included "became hyper," irregularity, endometriosis, breast pain, dampness, prevent menses, didn't help so the dosage was

increased, and hyperplasia which led to several D and C's (Variable 5).

None of the women had major surgeries in the last year. Three women (7.5%) had D and C's, one woman had surgery on her elbow for tendonitis.

Four women (10%) had a death in the family in the last year. One of the deaths was an uncle, one was a mother-in-law, one a father-in-law, and one a brother-in-law.

Six (15%) of the women had been separated from a member of the household in the past year. Five (12.5%) were separated because of marriage or change of residence of a son or daughter. One was separated from her husband who took their adopted daughter with him.

Twenty-four (60%) of the women considered themselves generally healthy. The remainder had medical conditions which they had had at least 6 months. One had had a double mastectomy 2 years ago and stated that she was depressed and had emotional problems. Nine (22.5%) had hypertension, two (5%) asthma, two (5%) degenerative arthritis, one hypertension in combination with diabetes, and one diabetes. The diabetic women were not insulin dependent (Variable 6).

Twenty-one women (52.5%) reported stress in the last year. As can be seen from Table 8, 35% of the women identified either change in health of a family member (15%) or emotional stress related to child and spouse problems (20%). The remaining 17.5% reported employment stress (10%), death of a friend (2.5%), trip (2.5%) or multiple (2.5%) stresses.

TABLE 8.--Extraneous Variable 7: Stress Identified by Participants in the Last Year ($\underline{n} = 40$).

Stress in the Last Year	Number of Participants	Percentage
Employment	4	10.0
Change in health of family member	6	15.0
Death of a friend	1	2.5
Emotional stress--child and spouse problems	8	20.0
Trip	1	2.5
Multiple	<u>1</u>	<u>2.5</u>
TOTAL	21	52.5

The women represented seven menopausal status groups. There were 22 (55%) women who had experienced changes in menses in the last 3 months. The remaining 45% of the women had regular menses (5%), menses in last 3 to 6 months (2.5%), menses in last 6 to 9 months (5%), menses in last 9 to 12 months (7.5%), menses in last 1 to 2 years (2.5%), menses in last 2 to 5 years (15%), or menses longer than 5 years ago (7.5%). These data are summarized in Table 9.

Nineteen (47.5%) of the women had had contact with other menopausal women in the past 2 weeks. Two did not answer the question. Eleven women (27.5%) reported this contact as positive, two (5%) negative and five (12.5%) as being neither positive nor

TABLE 9.--Extraneous Variable 8: Menopausal Status Related to Menses Status of Participants ($n = 40$).

Menopausal Status Related to Menses	Number of Participants	Percentage
Regular menses - no changes	2	5.0
Menses in last 3 months with changes	22	55.0
Last menses - 3 to 6 months ago	1	2.5
Last menses - 6 to 9 months ago	2	7.5
Last menses - 9 to 12 months ago	3	7.5
Last menses - 1 to 2 years ago	1	2.5
Last menses - 2 to 5 years ago	6	15.0
Last menses - longer than 5 years ago	<u>3</u>	<u>7.5</u>
TOTAL	40	100.0

negative. One did not answer the second part of the question (Variable 9).

When the women were asked to what extent menstrual periods were/are a problem, the women varied greatly in their attitude. It can be seen from Table 10 that 57.5% (23 women) said to no extent (32.5%), or to a very little extent (25%). The remaining 40% said to some extent (17.5%), to a moderate extent (12.5%), or to a great extent (10%) with one woman not answering the question.

TABLE 10.--Extraneous Variable 10: Extent to Which Menstrual Periods Are/Were a Problem to Participants ($n = 40$).

To What Extent Were/Are Your Menstrual Periods a Problem for You?	Number of Participants	Percentage
To no extent	13	32.5
To a very little extent	10	25.0
To some extent	7	17.5
To a moderate extent	5	12.5
To a great extent	4	10.0
No data	<u>1</u>	<u>2.5</u>
TOTAL	40	100.0

Data Presentation for Hypotheses

The Statistical Technique

A simple correlation is a mathematical way of expressing the degree of relationship between two variables (Borg and Gall, 1971). In order to test the hypotheses (the relationship between the variables measured in this study), the Pearson Product-Moment Correlation (r) was computed. "The size of the correlation coefficient is indicative of the degree of relationship between the variables, and a low correlation indicates a low relationship" (Borg and 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 and Williams, 1941, p. 65).

When a correlation coefficient is statistically significant, it means that the coefficient is sufficiently high to be confident that a true relationship exists between the variables. "If the correlation is not significantly different from zero, it must be assumed that no relationship exists between variables (or that the sample size was not large enough to detect the difference) (Borg and Gall, 1971). For this study, in order to reject the null hypotheses, the level of confidence was set at .05.

Hypotheses

Hypothesis 1: There is no relationship between a woman's menopausal index score and her life impact score.

The Pearson Product-Moment Correlation between the independent variable, MIS, and the dependent variable, LIS, was moderately high, .6984 (Table 11) which was significant at the

.001 level. The null hypothesis is rejected. As a woman's MIS increases, her LIS increases.

Subhypothesis 1a: There is no relationship between a woman's menopausal index score and her family interactions score.

The Pearson Product-Moment Correlation between the independent variable, MIS, and the dependent variable, family interactions score, was moderate, .4779 (Table 11), at the .002 significance level. The null hypothesis is rejected. As a woman's MIS increases, her family interactions score increases.

Subhypothesis 1b: There is no relationship between a woman's menopausal index score and her recreational (social) activities score.

The Pearson Product-Moment Correlation between the independent variable, MIS, and dependent variable, recreational (social) activities score was moderate, .5791 (Table 11), which was significant at the .001 level. The null hypothesis is rejected. As a woman's MIS increases, her recreational (social) activities score increases.

Subhypothesis 1c: There is no relationship between a woman's menopausal index score and her job/homemaker role score.

The Pearson Product-Moment Correlation between the independent variable, MIS, and dependent variable, job/homemaker role score was somewhat high, .6059 (Table 11), which was significant at the .001 level. The null hypothesis is rejected. As a woman's MIS increases, her job/homemaker role score increases.

Subhypothesis 1d: There is no relationship between a woman's menopausal index score and her sexual activity score.

The Pearson Product-Moment Correlation between the independent variable, MIS, and dependent variable, sexual activity score was moderate, .5784 (Table 11), which was significant at the .001 level. The null hypothesis is rejected. As a woman's MIS increases, there is increasing interference in her sexual activity.

Hypothesis 2: There is no relationship between any one of the three categories of scores of menopausal symptoms (MIS) and the life impact score. In order to test this hypothesis, the hypothesis is subdivided.

Subhypothesis 2a: There is no relationship between the psychological symptoms score of the MIS and the life impact score.

The Pearson Product-Moment Correlation between the independent variable, psychological symptoms score of the MIS, and dependent variable, LIS, was somewhat high, .6875 (Table 11), which was significant at the .001 level. The null hypothesis is rejected. As a woman's psychological symptoms score increases, the LIS increases.

Subhypothesis 2b: There is no relationship between the vasomotor symptom score of the MIS and the life impact score.

The Pearson Product-Moment Correlation between the independent variable, the vasomotor symptom score of the MIS, and dependent variable, LIS, was moderate, .4359 (Table 11), which was significant at the .003 level. The null hypothesis is rejected. As a woman's vasomotor symptom score of the MIS increases, her LIS increases.

Subhypothesis 2c: There is no relationship between the somatic symptoms score of the MIS and the life impact score.

The Pearson Product-Moment Correlation between the independent variable, the somatic symptoms score of the MIS, and dependent variable, LIS, was moderate, .5628 (Table 11), which was significant at the .001 level. The null hypothesis is rejected. As a woman's somatic symptoms score of the MIS increases, her LIS increases.

Therefore, the null hypothesis, Hypothesis 2, is rejected. When any one of the three categories of scores of the MIS increases, the life impact score increases.

Hypothesis 3: There is no interrelationship between any one of the category scores of the MIS and any one of the four indices of the life impact score.

The Pearson Product-Moment Correlation between the independent variable, the psychological symptoms score of the MIS, and the dependent variable, the family interactions score of the LIS, was moderate, .5262 (Table 11), which was significant at the .001 level.

The Pearson Product-Moment Correlation between the independent variable, the psychological symptoms score of the MIS, and the dependent variable, the homemaker/job role score of the LIS, was somewhat high, .6507 (Table 11), which was significant at the .001 level.

The Pearson Product-Moment Correlation between the independent variable, the psychological symptoms score of the MIS, and the dependent variable, the recreational (social) activities score of the LIS, was moderate, .5805 (Table 11), which was significant at the .001 level.

The Pearson Product-Moment Correlation between the independent variable, the psychological symptoms score of the MIS, and the dependent variable, the sexual activity score of the LIS, was moderate, .5557 (Table 11), which was significant at the .001 level.

The Pearson Product-Moment Correlation between the independent variable, the vasomotor symptom score of the MIS, and the dependent variable, the family interaction's score of the LIS, was not significant.

The Pearson Product-Moment Correlation between the independent variable, the vasomotor symptom score of the MIS, and the dependent variable, the homemaker/job role score of the LIS, was low, .3476 (Table 11), which was significant at the .02 level.

The Pearson Product-Moment Correlation between the independent variable, the vasomotor symptom score of the MIS, and the dependent variable, the recreational (social) activities score of the LIS, was moderate, .4138 (Table 11), which was significant at the .005 level.

The Pearson Product-Moment Correlation between the independent variable, the vasomotor symptom score of the MIS, and the dependent variable, the sexual activity score of the LIS, was low, .3248 (Table 11), which was significant at the .02 level.

The Pearson Product-Moment Correlation between the independent variable, the somatic symptoms score of the MIS, and the dependent variable, the family interactions score of the LIS, was moderate, .4368 (Table 11), which was significant at the .004 level.

The Pearson Product-Moment Correlation between the independent variable, the somatic symptoms score of the MIS, and the dependent variable, the homemaker/job role score of the LIS, was moderate, .4580 (Table 11), which was significant at the .002 level.

The Pearson Product-Moment Correlation between the independent variable, the somatic symptoms score of the MIS, and the dependent variable, the recreational (social) activities score of the LIS, was moderate, .4024 (Table 11), which was significant at the .006 level.

The Pearson Product-Moment Correlation between the independent variable, the somatic symptoms score of the MIS, and the dependent variable, the sexual activity score of the LIS, was moderate, .5537 (Table 11), which was significant at the .001 level.

The null hypothesis is not rejected. Although there is a moderate relationship between the psychological and somatic symptoms scores with the family interactions, homemaker/job role, recreational (social) activities and sexual activity scores, and the vasomotor symptom score shows a moderate relationship to the recreational (social) activities score and a low relationship to

TABLE 11.--Correlation Matrix for Nine Variables.

Dependent Variables	Independent Variables		
	MIS	Somatic	Psychological Vasomotor
Family Interactions	.4779*	.4368*	.5262** .1983
Homemaker/Job Role	.6059**	.4580*	.6507** .3476*
Recreational (Social) Activities	.5791**	.4024*	.5805** .4138*
Sexual Activity	.5784**	.5537**	.5557** .3248*
LIS	.6984**	.5628**	.6875** .4359*

* = Significant at the .05 level of confidence.

** = Significant at the .001 level of confidence.

the homemaker/job role and sexual activity scores, the relationship of the vasomotor symptom score to the family interactions score is not significant.

Hypothesis 4: There is no relationship between any one of the ten extraneous variables and the MIS or LIS.

The Pearson Product-Moment Correlation between the independent variables (age, occupation, household composition, ages of children living at home, current and past use of hormones, medical conditions, stress in the last year, menopausal status related to menses, contact with other menopausal women in the last two weeks, and extent menstrual periods are/were a problem) and the dependent variables MIS and LIS are summarized in Table 12. The null hypothesis cannot be rejected.

The point biserial correlation is a form of the Pearson Product-Moment Correlation and was used in analyzing the data for extraneous variables 5, 6, 7, and 9. The point biserial correlation r_{pbis} is used when one of the variables to be correlated is a continuous score and the other variable is in the form of a true dichotomy (Borg & Gall, 1971). For extraneous variables 5, 6, 7, and 9, a true dichotomy exists because in these situations the answers to the questions on the questionnaire are in the form of a yes/no response. Since the categories are arbitrarily assigned, a negative correlation coefficient finding does not have the same implication as when continuous scores are compared. The relationship

is interpreted on the basis of the relationship of the score (MIS and LIS) and the category.

Extraneous Variable 1

Age is not significantly related to the MIS, .2243, or the LIS, .2095.

Extraneous Variable 2

Occupation is not related to the MIS, or the LIS.

Extraneous Variable 3

Household composition is not significantly related to the MIS, -.1572, or the LIS, -.2171.

Extraneous Variable 4

Ages of children living at home shows a moderate correlation with the MIS, .4720, which was significant at the .02 level. As the ages of children living at home increases, the MIS increases.

Ages of children living at home is not significantly related to the LIS, .2064.

Extraneous Variable 5

Absence of current and past use of hormones shows a low correlation with the MIS, -.3843, which was significant at the .008 level. If a woman had never or was not currently taking hormones, it was likely that her MIS would be lower than if she was taking or had taken hormones.

Absence of current and past use of hormones is not significantly related to the LIS, $-.2446$.

Extraneous Variable 6

Absence of other health conditions shows a moderate correlation to the MIS, $-.4385$, which was significant at the $.003$ level and to the LIS, $-.4062$, which was significant at the $.006$ level. If a woman did not have other health conditions, it was likely that her MIS and her LIS would be lower than if she did have medical conditions.

Extraneous Variable 7

Stress in the last year is not related to the MIS, $-.0437$, or the LIS, $-.0916$.

Extraneous Variable 8

Menopausal status is not significantly related to the MIS, $.1942$, or the LIS, $.1683$.

Extraneous Variable 9

Contact with other menopausal women in the last two weeks is not significantly related to the MIS, $-.0893$, or the LIS, $-.2165$.

Extraneous Variable 10

Extent menstrual periods are/were a problem to the women is not significantly related to the MIS, $.1687$, or the LIS, $.1595$.

See Table 12.

TABLE 12.--Correlation Matrix for Extraneous Variables and LIS and MIS. ($n = 40$).

	Extraneous Variables ⁺									
	1	2	3	4	5	6	7	8	9	10
MIS	.2243	.0590	-.1572	.4720* ($n=19$)	-.3843**	-.4385**	-.0437	.1942	-.0893	.1687
LIS	.2095	-.0291	-.2171	.2064	-.2446	-.4062**	-.0916	.1683	-.2165	.1595

* = Significant at the .05 level of confidence.

** = Significant at the .01 level of confidence.

⁺KEY TO NUMBER ASSIGNED TO VARIABLES:

- 1 = Age of participants
- 2 = Occupations of participants
- 3 = Household composition
- 4 = Ages of children living at home
- 5 = Current and past use of hormone
- 6 = Medical conditions
- 7 = Stress in the past year
- 8 = Menopausal status related to menses status
- 9 = Contact with other menopausal women in the past two weeks
- 10 = Extent menstrual periods are/were a problem to participants

Description of the Symptoms Menopausal
Women Attribute to Menopause

Question 1

What are the symptoms menopausal women attribute to their menopause?

There was response to each of the symptoms listed on the questionnaire. See Table 13 for a summary of these data. Twenty-eight (70%) of the women reported hot flashes and/or sweating. The remaining most frequently reported symptoms included 20 (50%) tiredness or lack of energy, 19 (47.5%) feeling unhappy or depressed and headaches, 17 (42.5%) trouble sleeping and nervousness or restlessness, 16 (40%) heart beating quickly or pounding and dryness of vagina, 15 (37.5%) aches and pains of muscles of joints and 14 (35%) poor memory.

Question 2

What are the characteristics of the symptoms menopausal women attribute to their menopause?

a. Severity: Severity of symptoms refers to the number of symptoms times the degree of severity of each symptom (mild, moderate or severe) times a numerical conversion index which reflects the relative significance of the symptom (MIS).

If a woman has all of the selected symptoms of menopause and they are severe, her score on the MIS would be 66. For this study the scores ranged from 01 to 44 on the MIS. The mean for the scores was 20 with a standard deviation of 12. This finding demonstrates

TABLE 13.--Occurrence of Symptoms Women Attribute to Their Menopause ($n = 40$).

Symptoms Women Attributed to Their Menopause	Number of Participants	Percentage
Hot flashes and/or sweating	28	70.0
Numbness or tingling of parts of body	9	22.5
Trouble sleeping	17	42.5
Nervousness or Restlessness	17	42.5
Feeling unhappy or depressed	19	47.5
Feeling dizzy or faint	9	22.5
Tiredness or lack of energy	20	50.0
Aches and pains of muscles or joints	15	37.5
Headaches	19	47.5
Heart beating quickly or pounding	16	40.0
Crawling feelings over the skin	5	12.5
Breast pains or discomfort	12	30.0
Painful intercourse	6	15.0
Dryness of vagina	16	40.0
Poor memory	14	35.0
Others added by women:		
Wrinkles of face	1	2.5
Anxiety	1	2.5
Mastectomy	1	2.5
Nausea (associated with hot flashes)	1	2.5

that there is great variation from one woman to another in the severity of the "menopausal syndrome."

b. Frequency of symptoms:

In the month previous to the study, the women experienced symptoms in all categories of frequency--two or more times per day, one time per day, two or more times per week, one time per week, and one to three times per month. The number of women experiencing each symptom as to how frequently they experienced each symptom is summarized in Table 14. Dryness of vagina and poor memory were not included in frequency evaluation because these symptoms are difficult to quantify in this way.

From Table 14 it can be seen that hot flashes and/or sweating are experienced two or more times per day by 13 (32.5%) of the women. Trouble sleeping, nervousness or restlessness, and tiredness or lack of energy are the next most frequently experienced symptoms and occur two or more times per week for nine (22.5%) of the women. Heart beating quickly or pounding occurs two or more times per week for seven (17.5%) of the women. Seven (17.5%) of the women have headaches one time per week. Ten (25%) of the women experience breast pain or discomfort one to three times per month suggesting this symptom coincides with the menstrual cycle. The remaining symptoms: numbness or tingling of parts of the body, feeling unhappy or depressed, feeling dizzy or faint, aches and pains of muscles or joints, crawling feelings over the skin, and painful intercourse are distributed irregularly throughout the month.

TABLE 14.--Frequency of the Symptoms Women Experienced Because of Menopause (n = 40).

Symptoms	Number of Participants Experiencing Symptoms				
	2 or More Times per Day	1 Time per Day	2 or More Times per Week	1 Time per Week	1-3 Times per Month
Hot flashes and/or sweating	13	2	5	5	3
Numbness or tingling of parts of body	1	0	3	3	2
Trouble sleeping	0	4	9	0	4
Nervousness or restlessness	1	2	9	1	4
Feeling unhappy or depressed	1	0	6	5	7
Feeling dizzy or faint	0	0	2	2	5
Tiredness or lack of energy	5	3	9	2	1
Aches and pains of muscles or joints	5	3	3	3	1
Headaches	2	3	2	7	5
Heart beating quickly or pounding	2	1	7	3	3
Crawling feelings over the skin	1	0	1	2	1
Breast pains or discomfort	2	0	0	0	10
Painful intercourse	0	0	2	1	3

c. Length of time symptoms are experienced.

Symptoms were experienced from less than 2 months to more than 2 years by the women. These data are summarized in Table 15. Common experience with hot flashes and/or sweating (17 women or 42.5%), headaches (15 women or 37.5%), nervousness or restlessness and feeling unhappy or depressed (13 women or 32.5%), trouble sleeping (12 women or 30%), and tiredness or lack of energy and aches and pains of muscles or joints (10 women or 25%) was more than two years. With few exceptions, the symptoms generally showed increasing numbers of women in the time categories as the length of time increased.

In order to evaluate the interrelationship between the symptoms a woman experienced in respect to the length of time the symptoms have been experienced, coefficient Alpha was computed. The reliability coefficient for the length of time symptoms have been experienced by the 33 women was high, .862. This demonstrates that for those women who had symptoms, the symptoms began to occur together.

Reliability of the Instrument

The reliability of the instrument was measured by computing coefficient Alpha as explained in Chapter IV. Seven areas of the instrument were evaluated for reliability: the grouping of the menopausal symptoms into psychological and somatic, and each category of the selected life activities--family interactions, recreational (social) activities, homemaker role, job role, and sexual activity.

TABLE 15.--Length of Time Symptoms Have Been Experienced by Subjects (n = 33).

Symptoms	Number of Participants Experiencing Symptoms				
	Less Than 2 Months	2 to 6 Months	6 Months to 1 Year	1 to 2 Years	More Than 2 Years
Hot flashes and/or sweating	2	3	4	5	17
Numbness or tingling of parts of body	0	0	4	1	5
Trouble sleeping	1	2	3	5	12
Nervousness or restlessness	2	0	4	3	13
Feeling unhappy or depressed	3	1	3	4	13
Feeling dizzy or faint	1	1	2	4	5
Tiredness or lack of energy	2	2	6	4	10
Aches and pains of muscles or joints	0	0	4	5	10
Headaches	1	1	2	3	15
Heart beating quickly or pounding	4	1	3	3	7
Crawling feelings over the skin	0	1	2	2	2
Breast pains or discomfort	1	1	3	4	4
Painful intercourse	0	0	2	2	1
Dryness of vagina	1	1	5	3	5
Poor memory	0	0	2	6	5

The reliability coefficient for the psychological symptom group was .819 which is high enough to be a satisfactory criterion of internal consistency. This finding suggests that the symptoms identified as psychological for this study tend to occur in a consistent pattern for each woman; either absent, mild, moderate, or severe. If a woman has one psychological symptom and it is mild, it is likely that she has the other psychological symptoms and they are mild.

The reliability coefficient for the somatic symptom group was .668 which demonstrates a high relationship between the somatic symptoms although not as strong as the psychological symptom group. If a woman has one somatic symptom, she is likely to have the other somatic symptoms and to the same degree of severity.

The concept of family interactions was operationalized by having the women respond to eight questions. The group of questions demonstrated internal consistency as evidenced by a high coefficient Alpha of .868.

The concept of recreational (social) activities was operationalized by having the women respond to nine questions. The group of questions demonstrated internal consistency as evidenced by a high coefficient Alpha of .785.

The concept of homemaker role was operationalized by having the women respond to six questions. The group of questions demonstrated internal consistency as evidenced by a high coefficient Alpha of .854.

The concept of job role was operationalized by having the women respond to seven questions. The group of questions demonstrated internal consistency as evidenced by a high coefficient Alpha of .892.

The concept of sexual activity was operationalized by having the women respond to 12 questions. The group of questions demonstrated internal consistency as evidenced by a high coefficient Alpha of .878.

Another consideration in evaluating the instrument is to consider to what extent the instrument is measuring differences between subjects. The scores on the menopausal index score showed a range from 01 to 44 with a possible high of 66. The mean for the scores was 20 with a standard deviation of 12. The scores therefore show a wide variation among subjects and suggest that differences between subjects are measured. The score on the life impact score showed a range from 43 to 150. The possible range was from 41 to 205. The mean for the life impact score was 82 with a standard deviation of 29. The life impact scores therefore show a wide variation among subjects and suggest that differences between subjects are measured.

Summary

In Chapter V, data were presented that described the study population focusing on 10 extraneous variables. Data were presented and analyzed using the Pearson Product-Moment Correlation for each of the research hypotheses to demonstrate the relationship between the variables measured in this study: menopausal index score, life

impact score and 10 extraneous variables. The symptoms the women attributed to menopause were identified and described in relation to the number reported and severity, frequency, and how long the symptoms have been experienced. The reliability of the instrument was evaluated using coefficient Alpha. The reliability findings demonstrated that the instrument effectively operationalized the concepts. The scores on the MIS and LIS suggest that differences between subjects were measured.

CHAPTER VI

SUMMARY OF FINDINGS, INTERPRETATION, AND IMPLICATIONS

Overview

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

Summary and Interpretation of Findings

Descriptive Findings of the Study Population

McKinlay and Jefferys (1974), Ballinger (1976), Greene (1976), and Maoz et al. (1970) studied menopausal women, age 45-54 years old. Bensen (1978) and Neugarten and Kraines (1965) report that symptoms of menopause occur most frequently in women age 45 to 55. The average age of cessation of menses in the United States is 49 years (Beard, 1976). It is apparent, therefore, that the present study population was representative of the age group normally associated with the menopause. Seventy-five percent of the women in the present study were 45 to 54 years old.

The women were knowledgeable about the menopause as was reflected in their reasons for being in the menopause. They knew

that menstrual changes, age, and hot flashes, as well as the selected symptoms, were associated with the menopause.

It is interesting to note that there were no refusals to participate in the present study. As was found in the Neugarten et al. (1963) study, the lack of refusals suggest that women are interested in the menopause, want to learn more about it, and want to talk about it. The eagerness to talk about the menopause was apparent even with women who were not in the menopause. Menopause appears to be a concern in women who are near menopausal age. The women in the present study wanted to talk about what menopause was like or might be like for them.

Bart and Grossman (Notman & Nadelson, 1978) believe past research on the menopause has been inhibited because women have been uncomfortable talking with male researchers about menopause. These authors suggest that "when there is support available in our culture for women sharing these formerly private areas of their lives with other women . . . we can really learn about the truth of these experiences in a systematic way" (Notman & Nadelson, 1978, p. 349). For the present study, being able to talk with a female provider appeared to give the women "permission" to talk about their concerns. As Neugarten et al. (1963) and Maoz et al. (1970) found, the women in the present study varied greatly in their attitude and experience with menopause. The statements by the women demonstrated that they do have problems, fears, lack of understanding, and a variety of attitudes at this time.

The review of literature implies that most women do not have disturbing symptoms because of menopause. Women who do have symptoms have not found their symptoms are cured by taking hormones (Ryan & Gibson, 1973). Consequently, the rate of hormone use for the present study, although compatible with the results found in the study by Stadel and Weiss (1975) appears out of proportion to the need. In the present study, 56% of the women had used or were currently using hormone supplement, compared to 51% who had used estrogens for more than 3 months in the Stadel and Weiss study.

Chilman (1968) described the typical white mid-stage family of the late 1960s to include married partners, who have three children and are living together with unmarried adolescent children. The grandparents were foreign born and were in close contact with the family. The family income was \$8,000 a year. The woman had completed high school and probably worked outside the home. The family was confronted with financial stress, especially the educational expenses of the children and home purchases.

The subjects in the present study are representative of the menopausal age group, a wide range of income levels and educational levels. The study population included varied household compositions, marital status, number of children and occupations. A typical family in this study is quite similar to the mid-stage family described by Chilman. The typical family includes married partners, who have three to four children, and are living together with unmarried, adolescent children. In contrast to Chilman's study the family does not identify with any particular national origin. The

family income is between \$10,000 and \$24,999 per year. The woman has completed high school and maybe 1 or 2 years of college. More than half of the women at this stage work outside the home in a variety of fields. As was found by Lowenthal and Chiriboga (1972) and Stevenson (1977), of middle stage families, 23 (57.5%) of the families in this study deal with a significant amount of stress. Older relatives are dying, some children are marrying and leaving home, health is changing among family members due to the aging process, and there are relationship problems with spouses and children.

Hypotheses

Hypothesis 1

There is no relationship between a woman's menopausal index score and her life impact score.

The relationship between a woman's menopausal index score and her life impact score was moderately high, .6984, and significant at the .001 level. As a woman's symptoms became multiple and more severe, there was increasing interference in her ability to perform all the selected life activities (family interactions, recreational [social], homemaker/job role and sexual). Perhaps a great deal more adjustment is needed during menopause than has been previously assumed. This finding demonstrates the significance of menopausal symptoms in a woman's life. Menopausal symptoms do affect a woman's life, and the interference with function in the selected areas is linked to the multiplicity and severity of symptoms. Therefore, one

way of understanding a woman's menopause better is to evaluate the effect of symptoms on a woman's life. One cannot focus on only one aspect of a woman's life but must view her holistically in order to understand the impact of her menopause and, consequently, use the information as a basis for providing nursing care.

Subhypothesis 1a

There is no relationship between a woman's menopausal index score and her family interactions score.

The relationship between a woman's menopausal index score and her family interactions score was moderate, .4779, significant at the .002 level. As a woman's menopausal symptoms score increased, there was increasing interference in family interactions. The menopausal index score reflects the severity and multiplicity of symptoms, therefore as a woman's score increases, it is assumed her feeling of well-being decreases since all the selected symptoms are generally considered unpleasant (see Table 13 for occurrence of symptoms in the study population). One could, consequently, argue a cause and effect between these two variables: menopausal symptoms could be causing a woman to interact poorly with family members because she does not feel well and her energy level is low. On the other hand, as has been suggested by Chilman (1968), Lowenthal and Chiriboga (1972) and Levinson (1977), adults at mid-stage are in a critical developmental phase as are their adolescent children. Relationships are changing among mid-stage family members. A woman's menopausal symptoms may be aggravated by the family's poor adjustment to the developmental changes among its members. The individuals may be focusing on

themselves, not responding to each other and/or not making time for each other. Adolescents tend to seek out peers and draw away from the family. It is understandable that a woman may worry about the children and the worries could interfere with sleep and cause fatigue. The interrelationship between family interactions and symptoms is apparent. Future research can study the interrelationship in more detail.

Subhypothesis 1b

There is no relationship between a woman's menopausal index score and her recreational (social) activities score.

The relationship between a woman's menopausal index score and her recreational (social) activities score was moderate, .5791, significant at the .001 level. As a woman's symptoms became multiple and more severe, there was increasing interference in recreational (social) activities. General malaise (reflected in the menopausal index score) may be interfering with a woman's desire to socialize. It appears that a woman's menopausal symptoms can be disturbing enough to her that she makes changes in her social activities.

Levinson (1977) suggests that a reappraisal occurs during the Mid-life Transition in men, and significant changes may be made in leisure activities. In order to make changes, a man experiences emotional turmoil. A woman may also be experiencing a Mid-life Transition at the time of menopause or be responding to her husband's changes. Thus part of the change in recreational (social) activities score may be related to changing interests at this stage of life.

Perhaps a woman's menopausal symptoms and recreational (social) activities score reflect the emotional turmoil and the process of the Mid-life Transition in herself or in her spouse or a combination of both factors.

Subhypothesis 1c

There is no relationship between a woman's menopausal index score and her homemaker/job role score.

The relationship between a woman's menopausal index score and her homemaker/job role score was moderate, .6059, significant at the .001 level. As a woman's menopausal index score increases, her homemaker/job role score demonstrates interference in function. The statements that make up the homemaker/job role score generally refer to tasks performed in managing a home or job related requirements. It is apparent that menopausal symptoms have affected a woman's feeling of well-being so that she may be unable to function as well in performing tasks. Not being able to function well is understandable for a woman who has not slept well, is tired, or has headaches (symptoms that women in this study frequently attributed to their menopause). An interaction between homemaker/job role score and symptoms may be occurring in another respect. Not being able to be as effective as a homemaker or in her job role can affect a woman's feelings of usefulness and her self-concept. Is she sad (one of the selected symptoms frequently attributed to menopause in this study) because she cannot do all the things she could when she was younger? How has she adjusted to her changing self-concept? Has she

substituted other activities that help her feel useful and important?

Subhypothesis 1d

There is no relationship between a woman's menopausal index score and her sexual activity score.

The relationship between a woman's menopausal index score and her sexual activity score was moderate, .5784, and significant at the .001 level. As a woman's menopausal index score increases, there is increasing interference in her sexual activity.

One could argue a cause and effect between these two variables. Menopausal symptoms could be causing a woman to interact poorly with her sexual partner because she does not feel well. Not feeling well can affect a woman's desire to groom, chose attractive clothing and general feelings of femininity and self-concept.

Especially if a woman has genital tissue changes that lead to vaginal dryness and painful intercourse, sexual intercourse as an expression of sexuality would be affected and influence her attitude and satisfaction. On the other hand, a poor sexual relationship regardless of menopause could produce similar vaginal symptoms as well as unhappiness and nervousness (symptoms on the MIS).

Neurgarten et al. (1963) found that many women expressed considerable uncertainty about the effects of menopause on sexuality. Some women may be influenced by the myth that menopause signifies the end of sex (Sedgwick, 1975). Perhaps the uncertainties about sexuality and lack of knoweldge about changes in sexual function

(longer time needed for vaginal lubrication during sexual activity at menopause) contribute to vaginal symptoms.

Lowenthal and Chiriboga's (1972) middle stage women subjects reported less frequency and/or quality of sex and viewed it as a relief. Lowenthal and Chiriboga did not interpret the attitude toward sexuality as a reflection of the menopause. However, the women in their study did report a negative self-concept. Chilman (1968) describes sexual anxiety on the part of men and women in the middle years. At a time when a female needs to feel she is still sexually desirable, her spouse is most susceptible to sexual impotence and/or extra-marital affairs (Hymovitch & Barnard, 1979).

It appears that many factors can be contributing to the symptoms of menopause that are related to the woman's sexuality score. Self-concept is affected by a woman's attitude about her usefulness, attractiveness, and feelings of well-being. Her self-concept, as well as demands on her life at this time to adjust to menopause, are affecting a woman's sexuality. The interrelatedness between symptoms and sexuality is apparent. Therefore, assessment of symptoms and sexuality are both important factors in an understanding of the menopausal woman.

Hypothesis 2

There is no relationship between any one of the three categories of scores of menopausal symptoms (MIS) and the life impact score.

The psychological symptoms score (.6875), the vasomotor symptom score (.4359) and the somatic symptoms score (.5628) of

the menopausal index score (MIS) were all significantly related to the LIS. This suggests that as any category of symptoms increases in severity and number of symptoms, there is associated increasing interference in a woman's performance of selected life activities. Therefore, not any one group of symptoms as a whole (as categorized in this study--psychological, somatic or vasomotor) accounts for the relationship of the MIS and the life impact score (LIS). If any one category of symptoms score increases, a woman's life impact score will increase.

Greene (1976) found that menopausal women varied in terms of their position on three separate continua: a psychological, a somatic and a vasomotor one. "The severity of vasomotor symptoms is therefore in no way related to the severity of the somatic or psychological ones, which in turn are not related to each other" (p. 429). The present study findings suggest the categories are somewhat related in that, although menopausal symptoms vary greatly for each woman on each continuum, one cannot evaluate the severity of menopause and its effect on a woman's life by examining any one symptom category. One must evaluate a woman's menopausal status by examining each category. The groups of symptoms interact to produce their effect on a woman's life. When a woman has a high score (reflecting severity and multiple symptoms) in one symptom category, she is likely to have a relatively high score in the other symptom categories. The present study findings also suggest that symptoms within each category are interrelated. The reliability coefficient for the

psychological symptom group was high, .819, and for the somatic symptom group was moderately high, .668.

In summary, the findings related to Hypotheses 1 and 2 suggest that the variables identified in this study (menopausal symptoms grouped as psychological, somatic, and vasomotor and selected life activities--family interactions, recreational [social] activities, homemaker/job role and sexual activity) are all related. In order to understand the menopausal woman, all these variables need to be assessed. One cannot focus on only one aspect of a menopausal woman's life or on one symptom when caring for the menopausal woman. There appears to be feedback between variables and health care based on one aspect of menopause would be fragmented and probably not effective.

Hypothesis 3

There is no interrelationship between any one of the category scores of the MIS and any one of the four indices of the life impact score.

The vasomotor symptom score was the only category of the MIS that was not significantly related to all the indices of the LIS. It was moderately (.4138) related to the recreational (social) activities score. Since women are embarrassed when they have a hot flash in public, the interference is understandable in this area, and the women may feel less like socializing.

The relationship between vasomotor symptoms and homemaker/job role was low, .3476, as it was with sexual activity score, .3248. Since 28 (70%) of the women in the study had hot flashes, it appears

that vasomotor symptoms are not as disturbing to the woman's life in these two areas as are the other symptoms women associate with menopause. Perhaps hot flashes are accepted more easily by women because they know hot flashes are "normal" and hot flashes are tangible symptoms of menopause. Because hot flashes are an acceptable part of menopause, hot flashes may not affect the woman's self-concept in a negative way. Hot flashes may not interfere with a woman's energy level, thus tasks related to her homemaker or job role do not become difficult.

The most significant symptom category related to the LIS was the psychological symptoms, .6875 at .001 level (family .5262, homemaker/job role .6507, recreational [social] .5805, and sexual activity .557, all at .001 level of confidence). It appears that psychological symptoms of menopause as a group (insomnia, nervousness, depression, fatigue, arthralgia and myalgia, palpitations and poor memory) have the greatest effect on a woman's performance of selected life activities with somatic closely following.

Since the vasomotor symptoms score is related to the total LIS, a woman with vasomotor symptoms is likely to have symptoms in the other categories and even though she has mild vasomotor symptoms, she may have severe and multiple psychological symptoms or severe and multiple somatic symptoms. It is apparent that if a woman has mild vasomotor symptoms, one cannot assume that her menopause is mild or that there is no interference in her performance of selected life activities.

Hypothesis 4

There is no relationship between any one of the ten extraneous variables and the MIS or LIS.

1. Age is not significantly related to the MIS, .2243, or the LIS, .2095. As people age it is assumed their coping skills improve and therefore they might be more able to cope with the menopause. This apparently is not the situation. Perhaps the symptoms and their effect on a woman's life are a reflection of the aging process and the body's decreased ability to adjust to physical change, and coping skills are not effective in counteracting the combined menopausal and age related problems.

2. Occupation was not significantly related to the MIS, .0596, or LIS, .0291. The researcher expected that nurses in particular would be more knowledgeable about the menopause and therefore would adjust to the changes better. The occupations also indirectly reflect educational level. Apparently symptoms occur regardless of the occupation or educational level, and knowledge and attitudes gleaned from these exposures do not contribute to a woman's adjustment. The finding supports the study by McKinlay and Jefferys (1974) which demonstrate no relationship between menopausal symptoms and employment, education, or income.

3. Household composition was not significantly related to the MIS or the LIS. The researcher assumed that household composition representing varied stresses and support systems would be related to the MIS and the LIS.

4. Ages of children living at home was moderately, .4720, related to the MIS, but not significantly related to the LIS. As the ages of children living at home increased, the number and severity of symptoms increased. Perhaps some of the symptoms the women are experiencing are related to or accentuated by the stresses of the older children living at home. It is assumed that households that have adult children (10% of the subjects had children over 20) would experience more conflicts as the children exert their independence. It is a normal developmental task of the 20 year old to separate from the family of origin and develop his own identity (Burnside, Ebersole & Monea, 1979). Since not all the women had children living at home with them, these findings are based on nineteen subjects and therefore the relationship is quite strong since the relationship was demonstrated on a relatively few subjects. This makes the interpretation of the lack of relationship between ages of children living at home and the LIS difficult. The researcher assumed that because older children might cause problems in a woman's adjustment in the selected life activities, the LIS score would be related to ages of children living at home, especially in the area of family interactions. The researcher thus reviewed the data so as to analyze the components that make up the MIS and the LIS and their relationship with ages of children living at home. Ages of children living at home is moderately related to the psychological symptom category, .4863, and not significantly related to the vasomotor or somatic category. It is understandable that nervousness, sleep disturbance and resulting fatigue (psychological symptoms on the MIS) may result from conflicts

with older children staying out late, pulling away from the family, and having friends and activities that conflict with the values of the parents (Burnside et al., 1969). Logically following should be an association of ages of children living at home and the LIS. Ages of children living at home was not significantly related to any of the indices of the LIS (.1013 sexual activity, .0995 family interactions, .2719 recreational [social] activities, and .1771 homemaker/job role). The researcher cannot explain the lack of relationship. The significance of the relationship between these variables will need to be determined in future research on larger numbers of subjects.

5. Absence of current and past use of hormones showed a low relationship to the MIS, $-.3843$, and the relationship to the LIS was not significant. If a woman had never taken a hormone supplement and was not currently taking hormones, her MIS would be lower than if she was currently on or had taken hormones. This finding conflicts with the findings of Kupperman et al. (1959) and Tzingounis et al. (1978), who found that menopausal symptoms were greatly alleviated by hormones. However, these two studies did not have control groups, therefore the change in symptoms could be due to another factor. For the present study, although hormone supplements may have alleviated symptoms, they were not effective in curing menopausal symptoms, and the women did have some problems with the use of hormones.

It is possible that the side effects of hormones were causing symptoms. Perhaps the hormones changed the character of the symptoms or extended the time period that symptoms were experienced. Another

interpretation is that women who choose to use hormones or have hormones prescribed for them have multiple and more severe menopausal symptoms to begin with, than women who do not use hormones. In either case, it is obvious that hormone supplement is not a curative for menopausal symptoms, and therefore alternative interventions need to be explored.

6. Absence of other health conditions showed a moderate relationship with the MIS, $-.4385$, and the LIS, $-.4062$. Women with other health conditions were likely to have a higher MIS and LIS than women who did not have other health conditions. This relationship was an expected finding. Symptoms associated with hypertension (headache, vertigo), diabetes (fatigue), asthma (fatigue, palpitations), degenerative arthritis (aches and pains of joints) and the medications associated with these conditions affect a woman's feeling of well being. A woman may wrongly associate the disease symptoms with menopause. The association might be especially suspicious if menstrual changes occurred at the time of the diagnosis of the other health conditions identified in the study population. An interaction between menopausal symptoms and the symptoms associated with the other health conditions is possible.

7. Stress in the last year (employment, change in health of family member, death of a friend, child and spouse emotional problems, trip, and multiple stresses) was not significantly related to the MIS and the LIS. The researcher expected that stress would be related to the MIS because of the findings of Rahe (1969). Rahe provided evidence that health changes occur following significant

life changes. Apparently the character of menopausal symptoms and a woman's performance of selected life activities (LIS) are not affected by stress. This findings supports the finding of Neugarten and Kraines (1965) who had a control group of nonmenopausal women in middlelscence so that comparisons could be made in symptoms between menopausal women and nonmenopausal women of the same age. Assuming that the stress of the age group would be comparable in the two groups, the authors were able to differentiate the menopausal woman on menopausal symptoms due to physiological changes at this time rather than the stresses of middlelscence. Since there is no relationship between stress and the MIS or LIS, one cannot assume that if a woman has symptoms and interference in life activities that she has had stress in the last year. One also cannot assume that if a woman had stress in the last year, her symptoms will be more severe or that there will be increased interference in her performance of selected life activities. The three aspects of a woman's life must be assessed.

8. There is no relationship between menopausal status (grouped according to menses status--regular menses, menses in last 3 months with changes in regularity or volume, last menses: 3 to 6 months ago, 6 to 9 months ago, 9 to 12 months ago, 1 to 2 years ago, 2 to 5 years ago, and longer than 5 years ago) and the MIS or the LIS. This finding suggests that the number and severity of symptoms are not associated with menstrual changes. Menopausal symptoms apparently vary over time from individual to individual and are not necessarily more common or more severe at the time when there appears to be the

greatest fluctuation in ovarian hormones (during menstrual changes). This finding is somewhat different from the findings of McKinlay and Jefferys (1974) and Neugarten and Kraines (1965) who suggested that symptoms increased during the time of menstrual irregularities and immediate cessation of menses. However, these researchers did not define the menopausal status groups as specifically as in the present study. They used longer time intervals for irregularities and cessation of menses in describing their population, consequently, the results are not comparable. Perhaps the study population in the present study is too small to make generalizations about when the symptoms occur related to menses status. The categories used for this study did not shed light on the association between menses status and symptoms. Basically this finding does suggest that even though a woman is not having menses, she still may be having multiple and severe symptoms and, consequently, interference in function in selected life activities.

Since hormone use might affect the regularity and occurrence of vaginal bleeding (not necessarily ovulatory cycles), the use or past use of hormones may be an intervening variable in the relationship between menopausal status groups and the MIS. A woman may (because of hormones) appear to be having regular menses when in fact there is great fluctuation in the natural secretion of ovarian hormones which causes symptoms not relieved by hormones. In other words, a woman may be wrongly categorized in a menopausal status group because her true menses status is masked by hormone supplement. Since 51% of the women in the present study are taking or have taken

hormones, hormone use makes it difficult to have knowledge about the true menses status of all the women in the study.

9. There is no relationship between a woman's MIS or LIS and her experience with other menopausal women in the past 2 weeks. This finding suggests that for these women contact with other menopausal women does not influence the severity and multiplicity of menopausal symptoms and the effect of menopause on their lives. Of the 19 (47.5%) women who had contact with other menopausal women, even though 11 (27.5%) of the women reported the contact as positive, two (5%) negative and five (12.5%) neither positive nor negative, there was no relationship between the variables. Thus experience with menopause is very individual and related to many other factors in a woman's life. The finding supports the necessity to provide a variety of interventions when caring for the menopausal woman. Support groups may be helpful for women where experiences can be shared. It is apparent that a professional facilitator for the group is necessary in order to help the group be a positive factor in the woman's adjustment to menopause. The women who do not benefit from group support need to be identified so that alternative support modes can be instigated.

10. There is no relationship between the extent menstrual periods are/were a problem for the women and the MIS and LIS. This finding suggests that perceived menstrual difficulties cannot predict the occurrence and severity of menopausal symptoms or the effect of menopause on a woman's life.

The question about menstrual periods could indirectly be measuring attitude toward menses. Maoz et al. (1970) found that there was no relationship between effective coping with past psychosexual experiences (coping successfully with menstruation) and a positive attitude toward menopause. The present study finding suggests that the attitude toward menstrual periods does not affect the attitude toward menopause. It can be assumed that experience with menstrual periods is not a major determinant of experience with menopause.

Description of the Symptoms Menopausal Women Attribute to Their Menopause

Question 1: What are the symptoms menopausal women attribute to their menopause?

Question 2: What are the characteristics of the symptoms menopausal women attribute to their menopause-- severity, frequency of symptoms, length of time symptoms are experienced?

As was found in McKinlay and Jefferys' study (1974), a typical menopausal syndrome was not identified. The data from the present study demonstrate great variation between subjects and do not allow for a description of a typical menopause. As was demonstrated in the study by McKinlay and Jefferys (1974), some symptoms occur more often than others during menopause (hot flashes [70%], sleep disturbance [42.5%], nervousness or restlessness [42.5%], depression [47.5%], fatigue [50%], and headaches [47.5%]). However, all the selected symptoms were attributed to the menopause by the women in this study. The MIS demonstrated a great variation from woman to woman on severity and multiplicity of symptoms. Hot flashes occurred

two or more times a day for 13 of the women. The remaining symptoms varied greatly in frequency between subjects with no identifiable patterns except breast pains or discomfort which appears to coincide with the menstrual cycle. Symptoms do begin to occur together and are experienced for more than two years for many women.

The findings elicit many questions. Why is there such a variation between women in their experience with menopausal symptoms? Why do the women attribute their symptoms to menopause? Perhaps the symptoms began to occur when menstrual changes began to occur, or the women have always experienced the symptoms but have just now recognized them or are more bothered by them because they are aging. Perhaps symptoms in the present feel more severe than symptoms experienced in the past. Perhaps the women now have a "reason" or "permission" to have symptoms because they have learned through past experience that menopause is associated with symptoms. They particularly had permission because they were talking to a female provider. Perhaps the women really are experiencing symptoms for the first time or symptoms they have had in the past are now more severe. Perhaps there is an interaction between symptoms they have had in the past and the physical changes (hormone changes) occurring as a result of menopause. Nevertheless, the women do believe they have symptoms now that they did not have before and that they are caused by menopause! These symptoms can last for two years and be severe enough to interfere to a great extent in their performance of selected life activities. The purpose of this study was not to establish credibility for a "menopausal syndrome." What is significant is that the

women believe that their symptoms are associated with the menopause and they must find ways of dealing with these symptoms and the effect of the symptoms on their lives. It is obvious that one cannot categorize women at this stage of life, but can expect a great deal of variation between women in their experience with menopause.

Based on these interpretation, the following nursing implications are presented.

Nursing Implications for Practice

The purpose of this study was to analyze the relationship between the symptoms a woman attributes to menopause and her perception of their effect on her performance of selected life activities. Incidental to the findings related to this major purpose were findings related to things the women shared with the researcher. From informal conversations, the researcher learned that women have some basic knowledge about the menopause, however, they do experience problems dealing with the menopause. They hold a variety of perceptions including fears and misunderstandings. The fact that they do want to talk about the menopause implies that menopause is important to them and if the nurse offers them the opportunity to explore, the women will share their feelings, knowledge, and the effect of menopause on their lives. This finding implies that the menopausal woman will be willing to contribute actively to her own care.

In order to plan appropriate care, every woman under the age of 43 should have an assessment of her menstrual status as part of the health assessment. Neugarten et al. (1963) found that younger women tend to have negative views of menopause, therefore, a beginning

assessment of the woman's attitude and understanding of the menopause and what impact she perceives it having on her life is appropriate. We need to identify the most appropriate time to begin to educate women about the menopause.

An evaluation of menopausal status and the effect of menopause on her life should be part of the health assessment of every woman between the ages of 43 and 60. Orem (1971) states that an adult's health may interfere with family life, work, and other aspects of adult living. Findings in the present study demonstrate that menopause does affect a woman's performance of life activities.

With some modification, the instrument developed for this study can be used as an assessment tool for women of menopausal age. The instrument not only serves as an assessment tool but also provides the opportunity for a woman to talk about her menopausal symptoms and their effect on her life. In the process of completing the tool, the woman focuses on herself and becomes aware of her own health state. The instrument thus becomes a strategy since it spurs new questions and self-awareness. The first step in self-care is for the patient to become aware of her health state, capabilities and level of functioning (Orem, 1971). Together, the nurse and the patient can review the information on the tool, assess the patient's need for self-care action and the patient's strengths and limitations in carrying out self-care action. Goals can be mutually set and strategies planned that will facilitate a sense of well-being in health related matters for the women.

Self-care is a learned behavior facilitated by interpersonal relationships and communication (Orem, 1971). Therefore, the nurse must first establish a relationship with the patient that will facilitate self-care. The nurse uses communication skills to establish the caring relationship. Trust must be established for an interactive process of quality to occur so that the interpersonal relationship is effective (Ruditis, 1979). The nurse must demonstrate that she is interested in the woman and respects and accepts her. The nurse must be empathetic and care about the patient. Caring activities take time and listening and "being there" are important strategies the nurse uses (Burnside et al., 1979). If the relationship with the nurse is based on trust and honesty, then authentic communication occurs and the woman will be able to share her true feelings. The nurse, by sharing herself, perhaps demonstrating her caring by the use of touch, can help a woman identify her strengths and personal resources for solving her problems related to menopause (Burnside et al., 1979).

Once the trusting relationship is established, nursing activities can be planned. Menopause is a situation where the nursing care is planned to promote health and protect against disease. As illustrated in the model (Figure 3), the supportive-educative nursing system is appropriate to use at this time. The nurse can help the menopausal woman by guiding and directing, teaching, supporting, and providing for a developmental environment, all of which should help in the forming or changing of attitudes

and values, the creative use of abilities, and the adjustment of self-concept (Orem, 1971).

From the findings in this study it is apparent that the most common symptoms of menopause are hot flashes, fatigue, trouble sleeping, depression, nervousness or restlessness, and headaches. The symptoms can last for several years. Teaching is a nursing activity suggested by Orem (1971) that is appropriate for helping a woman deal with symptoms. Teaching the menopausal woman about the common occurrence of these symptoms should help her feel "normal" with the symptoms she has. Knowing that the symptoms are normal, the menopausal woman can be encouraged by the nurse, listening attentively, to talk about her feelings related to the menopause. Sharing her feelings about the symptoms should help the woman improve her attitude toward the menopause and her self-concept. A woman may feel that hot flashes are very obvious to onlookers and be overly self-conscious about herself when she has a hot flash in public. The nurse can suggest that the woman look in the mirror when she is having a hot flash in order to help her have a more realistic picture of herself. The woman's self-concept and attitude about herself should improve with this activity. The nurse can suggest alternatives for clothing choices that will offer comfort for the woman during a hot flash.

Nursing activities can facilitate a woman's ability to cope with symptoms. Creative ways of dealing with sleep problems can be explored. How does the woman manage a sleepless night? The nurse can suggest constructive activities that might facilitate sleep.

Outdoor exercise during the day, decreasing coffee intake in the afternoon and evening or a warm bath right before bedtime may not have been considered by the menopausal woman and can be offered by the nurse. The discussion with the patient of strategies for dealing with symptoms describe supportive nursing activities which should help the woman feel that she has legitimate needs and that it is "okay" to focus on herself at this time. She thus should feel better about herself, as the nurse shows an interest in her.

The findings in this study suggest other areas that need to be discussed with the menopausal patient. The questions that have operationalized the concepts of family interactions, recreational (social) activities, homemaker/job role and sexual activity demonstrate areas that are affected by menopause and the nurse can focus on these areas to help the menopausal woman.

For example, one of the findings on family interactions demonstrates that the family is not doing as many activities together as before the woman's menopause. The family members need to be informed that it is normal for family relationships to change at this stage of the family life cycle. It is appropriate for family members to be included during a health care visit so that the whole family can talk about the changes in family activities. The nurse can encourage the family to talk about ways the family has changed and how they feel about the changes. As a result of guiding and directing nursing activities each member might feel comfortable sharing an idea for an activity the family can do together. The nurse can suggest a family activity based on the wishes of the family

members. Activities may be planned for the whole family or for just two members at a time. If family members share their feelings and are encouraged to help each other, a developmental environment can be established for all the family members. Orem (1971) states that a developmental environment is one where environmental conditions are provided that motivate the person to "establish appropriate goals for himself and adjust his behavior to achieve results specified by the goals" (p. 75). Providing the family members with the opportunity to interact and communicate with each other should help motivate the family members to work together, thus strengthening the family unit. The nurse can role model by demonstrating respect for the wishes and needs of each family member, thus providing for a developmental environment during the health care visit. The nurse may wish to direct the family to a family service agency.

Another finding in this study was a change in recreational (social) activities for the women. The nurse can encourage the woman to talk about her leisure activities. Perhaps, it is an appropriate time in her life to take up a new hobby, look for new activities or new friends. Perhaps the woman has thought about doing something new and just needs a slight encouragement or support from the nurse to do it. Just talking about the possibilities and interests the woman has should help the woman become more aware of her resources. Contracting with the nurse may be a strategy: before the next appointment, the woman will attend a community education class or visit a friend she has been meaning to visit. All of these strategies

should help the woman become socialized into a new role and improve her self-image.

Homemaker/job role was another area affected by the menopause. Does the woman feel sad because she does not have the energy to work as efficiently at her job or as a homemaker? Sharing with her that many women have a lot of energy following menopause and that the fatigue is normal and temporary for this stage should help the woman feel better about herself. Suggesting that she rest during the day, that it is "okay" to rest may be helpful. Perhaps her energy level and her feeling of well-being will be improved through better nutrition, exercise and weight loss. A diet history and exercise history can provide information so that the nurse can assess needs in this area. The nurse can make suggestions for gradually increasing exercise and/or improving the woman's diet.

Sexual activity was another area in this study that was affected by menopause. The questions on the questionnaire referred to feelings of femininity and attractiveness. The nurse can suggest activities that would improve the woman's attractiveness and thus her self-concept. Attitude and misconceptions about sexuality may be influencing a woman in the area of sexuality. The menopausal woman needs to be told that menopause does not end a woman's sex life. Some women may have an improved sex life because they no longer need to worry about pregnancy. The menopausal woman does need to be told that there are changes in sexual response. Time needed for sexual arousal is increased but is normal and does not with satisfaction. The woman may need support from the

nurse to communicate this information to her sexual partner. The woman can be guided and directed to express her feelings and sexual needs openly and honestly with her sexual partner. The nurse can direct the patient to clinics for sexual counseling or suggest reading material.

The findings in the present study suggest that symptoms were related to other health problems. Therefore, a further assessment of the woman's health is necessary to rule out chronic diseases such as hypertension, diabetes and arthritis which could be causing symptoms.

As evidenced by the study findings, the nurse cannot assume that if a woman is taking hormones, her symptoms will be alleviated. Some of the women in the study were taking or had taken hormones for the menopause and were still having symptoms. An accurate assessment of the effects and side effects of the hormones must be made. Because of the incidence of breast tumors and spotting with hormone use in the women in this study, a woman must be encouraged to do self-breast examinations and report spotting.

It is also apparent from the results of this study that many middle stage women experience life events which are stressful. There are employment stresses, change in health of family members, problems with spouse and children, and deaths of relatives and friends. The nurse should ask about the possibility of these occurrences and offer support.

The nurse may choose to direct the woman to self-help discussion groups that focus on the problems of menopause. The

finding in this study that contact with other menopausal women is not related to the MIS and LIS suggests that support groups may not be effective for all women and the support group must be chosen with care.

In summary, the purpose of this study was to analyze the relationship between menopausal symptoms and their effect on a woman's life. It was found that women experience many symptoms because of menopause and the symptoms do affect the woman's performance of selected life activities. The nurse, when providing care for the menopausal woman, must not only focus on strategies that help the woman deal with symptoms but must also focus on the aspects of a woman's life that are related to the symptoms.

This study provided information that contributes to the knowledge base of the nurse so that nursing care of the menopausal woman can be based on theory about menopause, the mid-stage woman, and the effect of menopause on a woman's life. Therefore, the information provided by this research should be included in nursing school curricula. An emphasis should be placed on the significance menopause holds in a woman's life. The instrument developed for this study can be used as an aid to help the nursing student assess her patient at this stage. The tool can also be shared with nurses in practice so that they are more aware of the needs of menopausal women. Nurses in practice should include the information assessed by the instrument on a woman's health record. Results of the research should be shared with male physicians so that they are more aware of a woman's needs at menopause. Male physicians need to become more

sensitive to menopausal women and facilitate communication so that women will feel more comfortable sharing their problems at menopause.

It would be desirable if societal attitudes about menopause could be changed to allow the woman experiencing menopause to feel more accepted. Perhaps she might be allowed the sick role at times rather than be forced to hide her symptoms and menopause from public scrutiny.

Implications for Future Research

Because most of the women in this study were having menstrual changes at the time they filled out the questionnaire and the researcher was able to speak with most of the women during the research process and therefore assess them further, the researcher believes that there is a menopausal syndrome. The symptoms of menopause appear to be caused by physiological changes in the body at this time and most women have symptoms. Psychological and somatic symptoms may be a reflection of the woman's lack of knowledge or attitude at this time of life. This possibility does not mean that symptoms are less debilitating or warrant less attention. The menopausal syndrome can be viewed as a syndrome very similar to the syndrome associated with premenstrual tension. They are both difficult to evaluate but they do exist and affect different women in different ways. Each woman's "syndrome" must be dealt with in and of itself including an assessment of the woman on all aspects of her life and health in order to obtain an accurate picture of the syndrome, rule out medical conditions, and intervene appropriately.

We do not know enough about the "menopausal syndrome" at this time. As nurses, we need to recognize our lack of understanding and how important menopause may be to a woman. The severity of menopause and its impact on some women's lives has been minimized. Medication is not a curative. The woman needs understanding and support. More research is needed, not so much to discount the "menopausal syndrome," but based on the recognition that this time of life is difficult for a great number of women, we must find ways to help the women cope with their symptoms and the effect on their lives. Women express a need to talk about the menopause because it plays an important part in their lives. Just listening and administering the instrument developed for this study appeared to help the women become aware of their health state and facilitate self-care. Therefore, suggestions are offered for future research.

1. A clearer understanding of the relationship between self-concept, attitudes and knowledge about the menopause and their effect on symptoms and a woman's life is needed. In future studies the instrument developed for this study can be used to measure symptoms and their effect on a woman's life with an additional section to measure knowledge, self-concept and attitude.

2. Some of the extraneous variables (household composition, ages of children living at home, stress in the last year) that were not statistically significant need to be reevaluated in future research on larger numbers of subjects for a better understanding of their relationship to a woman's menopausal symptoms and effect on

her life. The effects of ethnic group and national origin need further analysis.

3. For a clearer understanding of symptoms, the symptoms of menopause should be described thoroughly for each woman by means of interview techniques. Open ended questions about this time of life would remove the suggestive quality of a questionnaire that has symptoms listed and a category of severity. Comparisons could be made between responses made to open and closed ended questionnaires.

4. It would be helpful in understanding the mid-stage individual if a similar study were done on men in this age group. Some experts content that men also have a menopause with symptoms similar to a woman experiencing menopause.

5. The study should be replicated on women experiencing surgical menopause and the results compared with the results of the present study. Self-concept, knowledge and attitude should also be measured.

6. Replicate the present study but reverse the variables. Ask women their perception of the effect selected life activities have on their menopausal symptoms.

7. Replicate the study on women of the same age group who do not have symptoms.

8. Longitudinal studies need to be done that study women before menopause as well as at menopause so that comparisons can be made between stages of life for the same individual. It is possible to relate a woman's feeling of well being to a LIS at other stages in life.

9. Further descriptive studies are needed on the mid-stage family in order to allow for a better understanding of the needs of the mid-stage family.

10. Comparisons need to be made between women at different stages of life related to symptoms and performance of selected life activities.

11. Nulliparous women need to be compared with parous women at menopause.

12. Experimental studies are needed to evaluate interventions and their effectiveness in improving the symptoms women have because of menopause and to improve the quality of selected life activities.

Possible Interventions:

a. The effect of hormone supplements should be evaluated by using control groups as well as experimental groups. These studies should be done over time so that the effect of hormone supplements can be evaluated in relation to how long women will experience symptoms if treated with hormones compared to not being treated with hormones. The hormones should be evaluated for their separate effect on vasomotor, psychological, and somatic symptoms. Further studies should clarify the classification of these symptoms.

b. Support groups where women share their experiences and feelings about menopause with other menopausal women should be evaluated as an intervention for improving symptoms and a woman's performance of life activities. The group leaders should be able to provide information about menopause and facilitate the group to meet the needs of the individual.

c. Family counseling should be evaluated as an intervention for improving symptoms and a woman's performance of life activities.

d. Nursing interventions premenopause should be investigated so that the appropriate time to educate women about menopause and offer anticipatory guidance can be identified.

e. Individual counseling should be investigated as an intervention when a woman experiences menopausal symptoms that affect her performance of selected life activities.

Summary

The findings from this study support the model explained in Chapter II (Figure 3). The menopausal woman is affected by the extraneous variables identified in this study, her menopausal symptoms, and the developmental tasks of middlelence. The woman's performance of selected life activities are related to her menopausal symptoms. The nurse should assess the menopausal woman using a holistic approach. Interventions should focus on a woman's symptoms and her performance of selected life activities. Nursing activities that facilitate a woman's self care action in health related matters should improve a woman's symptoms (MIS) and their effect on her performance of selected life activities (LIS).

APPENDICES

APPENDIX A

QUESTIONNAIRE AND SCORING

Code No: _____

The following questions describe general things about you. Please answer all the questions to the best of your ability. There are no right or wrong answers.

1. Age _____
2. Ethnic Group: White _____; Black _____; Other (specify) _____
National Origin _____ (specify)
3. Current Marital Status: (check one and specify number of years or months)

_____ Married	_____ Years
_____ Separated	_____ Months
_____ Divorced	_____ Years
_____ Single	
_____ Widowed	_____ Years
4. Income: Total family income for past 12 months (check one)

_____ 0 - \$4,999	_____ \$15,000-24,999
_____ \$5,000-9,999	_____ \$25,000 and above
_____ \$10,000-14,999	
5. Education (check one and specify highest year or grade completed)

_____ elementary school	_____ (number of years)
_____ high school	_____ (number of years)
_____ college	_____ (number of years)
_____ technical	_____ (number of years)
6. Major field of experience or educational preparation (occupation)

In what capacity are you now employed and/or volunteering outside the home? _____

Employment
 Volunteer Work
7. Present household composition (check appropriate description of with whom you are living):

_____ live alone
_____ live with spouse
_____ live with spouse and unmarried children
_____ live with spouse in home with relatives
_____ live with relative(s)
_____ live with unrelated person(s)
_____ other (for example, specify number of children who are college students and living away from home during the academic year.

8. Children (include stepchildren or foster children)

Number of children _____

Ages of children _____

Ages of children living at home _____

Ages of grandchildren living at home with you _____

9. Are you taking or have you ever taken hormone pills for the menopause? _____ YES _____ NO

If Yes, specify appropriate description(s):

Name of pill, dosage and frequency _____

Month and year started _____

Month and year if discontinued _____

Have you had to have the dose or pill changed because of problems? _____ YES _____ NO. If Yes, explain:_____

10. Present method of birth control (check)

_____ none

_____ abstaining (no sexual intercourse)

_____ barrier: foam, diaphragm, or condom (rubber)

_____ IUD (coil or loop)

_____ the "pill"

_____ sterilization

_____ tubes tied (female)

_____ vasectomy (male)

_____ other (specify) _____

11. Are you being treated by a doctor for any condition(s)?

_____ YES _____ NO. If Yes, please check the condition in the column that describes how long you've been treated for the condition:

check	less than 6 months	6 months to 1 year	more than 1 year
high blood pressure			
heart disease			
diabetes			
cancer			
depression			
emotional problems			
other (specify)			

12. Please list any medications you are taking:

13. Have you had surgery or an injury in the last year?

____ YES; ____ NO

If Yes, specify type(s) _____

Month _____

14. Has there been a death in the family in the last year?

____ YES; ____ NO

If Yes, specify relation _____

Month _____

15. Have you been separated from a member of the household through marriage, change of residence, or death in the last year?

____ YES; ____ NO

If Yes, explain _____

16. Has there been any significant change or stress in your life in the last year? (For example: employment change, change in family member's health, financial change, death of close friend, etc.)

____ YES; ____ No

If Yes, explain _____

The following questions are about menopause (change of life). Please answer all the questions to the best of your ability. There are no right or wrong answers.

1. Do you think you are in the menopause? ☐ YES; ☐ NO

Why? _____

2. If you are still having periods, have you noticed any changes in your menstrual periods within the last year? ☐ YES; ☐ NO

If YES check (✓) appropriate description(s)

- ☐ periods became irregular
- ☐ periods are heavier
- ☐ periods are lighter
- ☐ periods come more frequently
- ☐ periods come less frequently

Other (specify) _____

When did you notice a change in your periods? Date _____

3. If you are no longer having periods, when did you have your last period? _____ month _____ year.

4. Please check (✓) the response which best describes your feelings about menstrual periods. To what extent were (are) your menstrual periods a problem for you?

- ☐ to no extent
- ☐ to a very little extent
- ☐ to some extent
- ☐ to a moderate extent
- ☐ to a great extent

5. In the past two weeks, have you had contact with other women in the menopause? (Please check (✓) your response)

☐ YES; ☐ NO

6. If yes, please check your feelings about the contact:

☐ Positive; ☐ Negative; ☐ Neither

Below is a list of symptoms some women have because of menopause.

1. Please check (✓) one of the columns for each symptom (either No, Mild, Moderate, or Severe);
2. For those symptoms you have experienced, check (✓) one column for each symptom that best describes how often you have the symptom (either 2 or more times per day, 2 or more times per week, etc.)

NOTE: If you had the symptom before menopause and it has not been changed by your menopause, mark NO for that symptom.

If you have a symptom, there should be TWO checks (✓✓) per symptom -- one for DESCRIPTION, one for FREQUENCY. (Your responses are to describe your symptoms in the past month as best you can, which you believe are caused by your menopause).

SYMPTOMS	DESCRIPTION				FREQUENCY				
	No	Mild	Moderate	Severe	2 or more Times/Day	1 Time/Day	2 or More Times/Week	1 Time/Week	1-3 Times per Month
Hot Flashes and/or Sweating					5	4	3	2	1
Numbness or Tingling of Parts of Body					5	4	3	2	1
Trouble Sleeping					5	4	3	2	1
Nervousness or Restlessness					5	4	3	2	1
Feeling Unhappy or Depressed					5	4	3	2	1
Feeling Dizzy or Faint					5	4	3	2	1
Tiredness or Lack of Energy					5	4	3	2	1
Aches and Pains of Muscles or Joints					5	4	3	2	1
Headaches					5	4	3	2	1
Heart Beating Quickly or Pounding					5	4	3	2	1
Crawling Feelings Over the Skin					5	4	3	2	1
Breast Pains or Discomfort					5	4	3	2	1
Painful Intercourse					5	4	3	2	1
Dryness of Vagina									
Poor Memory									
Others (specify)									

Everyone has certain things they usually do in carrying on their lives. Sometimes you may find because of your menopause symptoms that you don't do things in the usual way; you cut out some things, you do other things for shorter lengths of time, or you do things in different ways.

Women vary as to the effect menopause has on their lives. I am interested in changes in your usual activities because of your menopause (ways your life has changed). The statements that follow are about every day activities. They may describe changes in you because of menopause.

Please respond to all statements as honestly as you can. There are no right or wrong answers. Do not spend too much time on any one question.

I would like you to circle the response on each statement that best describes the effect menopause has on you. The questions should be answered according to how you feel today. Select from:

STRONGLY AGREE
AGREE
UNCERTAIN
DISAGREE
STRONGLY DISAGREE

according to which comment reflects your personal experience with your menopause in relation to the statement.

RECREATIONAL (SOCIAL) ACTIVITIES

(Please Circle Appropriate Response)

1. I have not decreased my exercise since I started the menopause.

<i>Strongly</i> <i>Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly</i> <i>Disagree</i>
1	2	3	4	5

2. Because of my menopause, I have decreased the number of contacts I have with friends.

<i>Strongly</i> <i>Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly</i> <i>Disagree</i>
5	4	3	2	1

3. My menopause causes me to do inactive recreation (for example, TV, cards, reading) activities.

<i>Strongly</i> <i>Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly</i> <i>Disagree</i>
5	4	3	2	1

4. My menopause does not interfere with the length of visits with my friends.

<i>Strongly</i> <i>Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly</i> <i>Disagree</i>
1	2	3	4	5

5. My menopause has not affected my ability to do my usual social activities.

<i>Strongly</i> <i>Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly</i> <i>Disagree</i>
1	2	3	4	5

6. Because of my menopause, I show less interest in other people's problems (for example, do not listen when they tell me about their problems, do not offer to help them).

<i>Strongly</i> <i>Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly</i> <i>Disagree</i>
5	4	3	2	1

7. I often am embarrassed at social affairs because of my menopause symptoms.

<i>Strongly</i> <i>Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly</i> <i>Disagree</i>
5	4	3	2	1

8. My menopause does not prevent me from choosing attractive clothes.

<i>Strongly</i> <i>Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly</i> <i>Disagree</i>
1	2	3	4	5

9. My menopause makes me feel uncomfortable with my appearance.

<i>Strongly</i> <i>Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly</i> <i>Disagree</i>
5	4	3	2	1

FAMILY INTERACTIONS

(Please Circle Appropriate Response)

1. My menopause does not interfere with the activities I do with my family.

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
1	2	3	4	5

2. I feel as though my family has less unity (became disrupted) since my menopause.

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
5	4	3	2	1

3. Because of my menopause, I often act irritable toward family members (for example, snap at them, criticize them, pick fights, give sharp answers).

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
5	4	3	2	1

4. Because of my menopause I am a burden (problem) to my family.

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
5	4	3	2	1

5. There has been no change in affection among my family members and myself since my menopause.

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
1	2	3	4	5

6. Because of my menopause symptoms I isolate myself from the rest of my family, talk less with them.

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
5	4	3	2	1

7. There has been no change in my family and me in discussing items of common interest and sharing problem solving because of my menopause.

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
1	2	3	4	5

8. Because of my menopause I often burst into tears for no apparent reason.

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
5	4	3	2	1

HOMEMAKER ROLE

(Please Circle Appropriate Response)

This group of statements has to do with any work you usually do in managing your home.

1. Because of my menopause I am doing less of the shopping (errands) than I usually do.

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
5	4	3	2	1

2. My menopause does not interfere with the regular daily work around the house that I usually do (for example, cooking, cleaning, repairs, yard work).

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
1	2	3	4	5

3. I need to rest often when doing work around the house because of my menopause.

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
5	4	3	2	1

4. Because of my menopause I have decreased the number of personal or household business affairs I usually take care of (for example, paying bills, banking, working on the budget).

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
5	4	3	2	1

5. I do all my housework as well now as before my menopause.

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
1	2	3	4	5

6. I believe that my menopause does not interfere with my ability to manage my home.

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
1	2	3	4	5

JOB ROLE

(Please Circle Appropriate Response)

Do you work outside your home for money full-time or part-time?

(Please check (✓)) YES () NO ()

If YES, please answer the following seven questions. If NO, go on to the next page of the questionnaire.

1. I believe my menopause makes it more difficult for me to perform my job.

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
5	4	3	2	1

2. I do my job as well now as before my menopause.

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
1	2	3	4	5

3. I have not been absent often from work because of my menopause.

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
1	2	3	4	5

4. Because of my menopause I have to make an extra effort to get started at work.

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
5	4	3	2	1

5. I believe that my menopause does not interfere with my job.

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
1	2	3	4	5

6. Because of my menopause, I am accomplishing less at work.

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
5	4	3	2	1

7. Because of my menopause I am not getting along as well with my work associates.

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
5	4	3	2	1

SEXUAL ACTIVITY

(Please Circle Appropriate Response)

Sexual activity refers to any activity you engage in for sexual pleasure either with or without a partner.

1. I feel just as feminine now as I did before my menopause.

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
1	2	3	4	5

2. Because of my menopause I have altered my sexual activity.

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
5	4	3	2	1

3. I feel I am just as attractive sexually now as I was before my menopause.

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
1	2	3	4	5

4. Sexual activity is as important to me now as it was before my menopause.

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
1	2	3	4	5

5. Because of my menopause my sexual activity has decreased.

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
5	4	3	2	1

6. I am enjoying sexual activity as much now as before my menopause.

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
1	2	3	4	5

7. I feel my body is less predictable because of my menopause.

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
5	4	3	2	1

If you do not have a sexual partner, omit the next four (4) questions.

1. My sexual partner has shown no change in relation to me because of my menopause.

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
1	2	3	4	5

2. I believe my sexual partner is less attracted to me because of my menopause.

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
5	4	3	2	1

3. I believe my sexual partner and I are not getting along as well now sexually as we did before my menopause.

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
5	4	3	2	1

4. My sexual partner is supportive and understanding of my menopause symptoms.

<i>Strongly Agree</i>	<i>Agree</i>	<i>Uncertain</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
1	2	3	4	5

You have now completed the questionnaire.
Thank you for your time and cooperation.

APPENDIX A SCORING

Examples of calculations of the homemaker/job score and total sexual activity score using proportions when the subject does not have a job outside the home and/or no sexual partner.

Calculations for homemaker/job score:

Homemaker score possible high = 30
Homemaker/job score possible high = 65

Example:

If homemaker score = 18 and no job outside the home:

$$\frac{\text{(Subject)}}{\text{(Total possible homemaker score)}} = \frac{X}{65} \frac{\text{(Computed subject homemaker/job score)}}{\text{(Total possible homemaker/job score)}}$$

X = 39 (homemaker/job score computed by using proportion)

Calculations for total sexual activity score:

Sexual activity score possible high = 35
Total sexual activity score possible high = 55

Example:

If sexual activity score = 28 and no sexual partner:

$$\frac{\text{(Subject)}}{\text{(Total possible sexual activity score)}} = \frac{X}{55} \frac{\text{(Computed subject total activity score)}}{\text{(Total possible sexual activity score)}}$$

X = 44 (Total sexual activity score computed by using proportion)

APPENDIX B

INVESTIGATOR'S STATEMENT AND
SUBJECT'S STATEMENT

PHYLLIS GENDLER, R.N.
2649 Algonquin
Grand Rapids, Michigan 49505
Telephone: (616) 363-4994

MICHIGAN STATE UNIVERSITY
SCHOOL OF NURSING

INVESTIGATOR'S STATEMENT

I am a graduate nursing student from Michigan State University. Since you are at an age when symptoms of menopause often occur, I am asking you to participate in a research study. I am collecting information from women about their menopause (change of life) and how they believe their menopausal symptoms are affecting their performance of selected life activities. From the information collected in this research, I will develop a questionnaire that women can fill out on a routine exam which will help identify those women having difficulty adjusting to the menopause. In further research, nurses can test out various ways to assist women to be more comfortable with their symptoms and the changes that occur during this time.

If you agree to take part in the study I would expect you to answer the questions on the attached form. There is no monetary cost to you. It will take about 20 minutes of your time. A room has been set aside for your privacy.

It is important to the study for you to answer all the questions. Your participation is voluntary and you may withdraw from the study at any time. There are no physical risks to you in this study and your health care will not in any way be affected by your choice of whether or not to participate in the study. Your identity will remain anonymous and all information will be confidential; that is, your name will never be associated with your answers. Please feel free to ask any questions of me at any time.

The questions may cause you to think about the menopause and be more conscious of your symptoms and the effect they have on you. Therefore, after you have completed the questionnaire, you will have an opportunity to discuss any questions you have about the menopause with me. I believe you will benefit from the opportunity to gain information and guidance during our discussion.

Phyllis Gendler
Family Nurse Clinician Student

Date

SUBJECT'S STATEMENT

I, the undersigned, agree to participate in this study. My participation is voluntary and I understand that I may not benefit directly from the research. I may withdraw at any time from the study without jeopardizing my future health care by calling Phyllis Gendler, (616) 363-4994. I have had an opportunity to ask questions.

Signature of Subject

Date

Signature of Investigator

Date

Duplicate to Subject

APPENDIX C

DEVIATIONS FROM PROCEDURES

DEVIATIONS FROM PROCEDURE

As the research progressed, the staff in two of the three physicians' offices became familiar with the routine of the research and when only one patient was coming in at a time and the researcher was in another site, the staff offered to administer the questionnaire. The staff followed the same procedure as the researcher and told the patient that the researcher could be called if there were questions.

The staff in two of the offices also checked the appointment book and D and C schedule for the three months previous to the research and gave the researcher names and phone numbers of patients of the age group who had not had hysterectomies. The physicians gave the researcher permission to call the patients. When the researcher had time, she arbitrarily called women on the list within a 20 minute drive and stated the following during the phone call:

Hello _____

Dr. _____ gave me permission to call you. I am Phyllis Gendler, a graduate nursing student from Michigan State University. I am doing my thesis on the menopause. Would you be willing to participate in my study?

All the women who were at home at the time of the phone call agreed to participate. Home visits were set up and the same procedure was followed in the home as in the offices.

On occasion a woman did not have the time to complete the questionnaire in the office. In this situation she took the questionnaire home and either delivered it to the offices in a sealed envelope or mailed it to the researcher.

Through the researcher's contacts with friends and acquaintances, other women learned of the research and volunteered to participate. An offer was given to the researcher to participate in Woman's Worth! - A Celebration! sponsored by the Women's Resource Center in Grand Rapids, in one of the shopping malls. The researcher participated in the display and shoppers in the mall completed the questionnaire on a volunteer basis when they noticed the display. The researcher was present at the display and therefore the same procedure was followed as in the offices.

APPENDIX D

HUMAN RIGHTS PROTECTION

MICHIGAN STATE UNIVERSITY
SCHOOL OF NURSING
HUMAN SUBJECTS REVIEW COMMITTEE APPLICATION

Date form completed: January 26, 1979

I. Principle Investigator

Name: Phyllis Gendler

Address: 2649 Algonquin
Grand Rapids, Michigan 49505

Phone: Home (616) 363-4994 Office (616) 866-1506

Position/Title: Family Nurse Clinician Graduate Student BSN, RN

Qualifications: Cognate Area - Specialized Care of Women
throughout Developmental Phases as Family Members. Seven
years work experience in OB/Gyn and Med/Surg in Hospital and
Primary Care and Nursing Education.

Names and Qualifications of Associates: Thesis Committee Members

1. Barbara Given, Chairperson, R.N., Ph.D., Assistant Director
for the Graduate Program. Specialty Area--Research Process
2. Mary Horan, Faculty School of Nursing, Content Area--Women's
health
3. JoAnn Westrick, Faculty School of Nursing. Specialty Area--
Psych-mental Health Nursing of Adults
4. Jacqueline Wright, Faculty School of Nursing. Specialty--
Developmental Crises in Family

II. Names and qualifications of other persons responsible for performing or supervising procedures: None

III. Title of proposal or activity: The relationship between the
symptoms a woman attributes to her menopause and her perception
of their effect on her performance of selected life activities.

IV. Beginning date of proposed activity: February 1979

V. Anticipated completion date: *June 1979*

VI. Is this activity related to a grant or contract? Yes No X
If yes, complete A-1.

A. Is it related to a training grant: Yes No

B. Is it related to a fellowship? Yes No

C. Has proposal been submitted? Yes No

D. Has award been made? Yes No

E. Name of Principal Investigator shown
(or to be shown) on proposal:

F. Name of agency to which proposal was
(or will be) submitted?

G. If continuation (or already awarded), what is the agency's grant or contract number?

H. Inclusive dates of grant or contract?
From _____, through _____

I. Will activity be performed if funding is not received?	Yes	No

VII. Checklist to be completed by investigator:

A. Will another organization or agency be involved (hospitals, Department of Public Health, others)? Yes ☒ No ☐

Name of other organization(s) or agency:

Harvey Gendler, M.D.	Rockford, Michigan
Earl Williams, M.D.	Grand Rapids, Michigan
Jeffrey Frank, M.D.	Grand Rapids, Michigan

Name and titles of person(s) in agency from whom permission to do study must be obtained:

The research has been discussed informally with the physicians.

B. Will an investigational new drug (IND) be used? If yes, name, proposed dosage, status with Food and Drug Administration and IND number. Enclose one copy of available toxicity data. Yes No X

C. Will other drugs be used? If yes, names and dosages. Yes No X

- D. Will a written consent form(s) be used? Yes X No
(Required in most cases.)
1. If no, explain why a written consent form will not be used.
2. If no, is a statement attached describing what participants will be told? Participants must be informed of all elements of VII-E below. Yes No
A written script of the verbal explanation must be attached to this request.
- E. Does (Do) the consent form(s) include:
- "Michigan State University" heading? Yes X No
- Name, position, department and telephone number of investigator? Yes X No
- Date? Yes X No
- Copy for Subject? Yes X No
- Signature and date lines to be completed by subject (and legal guardian, if subject is a minor or is legally incompetent), and investigator? Yes X No
- The following elements of consent expressed in lay terms:
- Purpose--benefits to be expected of knowledge hoped to be gained? Yes X No
- Procedures to be followed only for the purpose of this activity, and time involved? Yes X No
- Nature and amount of risk, or substantial stress or discomfort involved? Yes X No
- Appropriate alternative procedures that might be advantageous or available to subject? (Show N/A, not applicable, when there are none.) Yes No NA

Costs the subject may immediately or ultimately be forced to bear and what reimbursement of costs or other compensation the subject will receive as the result of participation in this activity? Yes X No

Voluntary nature of participation and freedom to withdraw at any point without penalty? Yes X No

Opportunity to ask questions before consenting? Yes X No

Assurance that subject's identity will remain confidential? Yes X No

Describe how, by whom, and where consent will be obtained.

When the subject arrives for a routine exam, the researcher will solicit the client by asking the possible subject if she would be willing to participate in the study. If the subject agrees, the researcher will ask her if she has had a hysterectomy, recent diagnosis of a health problem or recent loss of a significant other by death or divorce. The researcher will not examine the patient's record. The researcher will then ask the subject to sign the consent form. The aforementioned exchange will occur in a private room in the health facility.

VIII. Subjects:

A. Criteria for selection (include sample size and age group).

30-40 women, age 45-55 experiencing symptoms attributed to natural menopause; No major surgery within past six months; No major illness (diabetes, hypertension, cardiac disease or major psychological disease) diagnosed within the last six months; No vaginal or bladder surgery within past year; No loss of a significant other in past year through death or divorce. Primary reason for visiting health facility is for routine exam.

B. Source of subjects (including patients), and how they will be approached.

Private Physicians' Offices (general practice and gynecology). The subject will be taken to a private room by the researcher prior to her exam. The research option will be presented. The researcher will seek the consent and administer the questionnaire. There is generally some waiting time for appointments in physicians' offices. If the patient is approached immediately on her arrival, I do not believe the general appointment schedule will be disrupted. It is possible to postpone the discussion with the researcher following the completion of the questionnaire if the physician is ready to see the patient or complete the questionnaire after the examination.

- C. Will subjects be paid or otherwise compensated? No
If so, what amount? _____ If not, how might the subject benefit?

The subject will have an opportunity to discuss her questions about the menopause with the researcher after she completes the questionnaire. She will benefit by gaining information, support, and anticipatory guidance from the researcher.

- D. Location where procedures will be carried out, e.g., patient's bedside, conference room, etc.

A private conference room.

IX. Confidentiality and Anonymity

- A. Steps to ensure that participation by subject will be kept confidential.

*Research takes place in private room.
Questionnaire will be coded and not have patient's name on it.
Consent form will be separated from questionnaire.
Physicians will not know who has participated.
Data in aggregate form.
Researcher administers questionnaire.*

- B. Provisions to ensure anonymity of documents and data.

*Coded number assignment
Separating consent form and questionnaire.
Consent form stored in researcher's home.*

- C. Provisions for controls over access to documents and data.

*Data accessible only to researcher and thesis committee.
Researcher administers questionnaire.
Consent form stored in researcher's home.*

- X. What publications might be helpful to the committee in consideration of this application? (Answer only if these might expedite review.)

XI. Outline of Activity

- A. Discuss other methods of data collection and reason for rejection.

The symptoms experts attribute to menopause are generally subjective and best described by the women experiencing them. The woman would give the best appraisal of how she believes her symptoms are affecting her performance of selected life activities. In order to collect quantifiable data, a closed-ended questionnaire was chosen.

- B. If any deception (withholding complete information) is required for the validity of this activity, explain why this is necessary.

No Deception

- C. Potential significance of the results (i.e., to patients, society, nursing).

The symptoms of menopause have not been described in depth in the literature. How these symptoms affect a woman's performance of selected life activities has not been described in the literature. If through the information gained in this research, a refined assessment tool is formulated, then women who have difficulty adjusting to the menopause can be identified on a routine exam. Various nursing interventions can be used to improve the woman's health state and tested in further research.

- D. Nature and degree of risk (stress, discomfort, side effects). Risk refers to all risks--physical, psychological, social, legal, etc.

No physical risks. Questionnaire might bring into the client's awareness things she has not thought about. She may have questions about the menopause. I believe the self-awareness would be beneficial. However, one could argue that there is an emotional risk in that some personalities are swayed by the power of suggestion. In such cases, being informed that there are unpleasant symptoms associated with menopause and the symptoms may affect one's life, a person may worry unnecessarily and indeed experience problems because of the worry. In defense of the research, I believe the average person is exposed to much information in the media (newspapers, magazines and television) which may be more disturbing than the questionnaire.

1. Possible adverse effects. Include an assessment of the likelihood and seriousness of such effects or risks.

See emotional risk discussion XI. D.

2. What safety precautions or counter-measures are planned to minimize risks in order to protect the rights and welfare of the individuals?

After the subject has completed the questionnaire, the researcher will be available to answer questions and provide information, support and anticipatory guidance. The subject is also given a copy of the consent form with the researcher's name and telephone number so that she can withdraw from the study.

3. Follow-up planned for procedures. Include debriefing statement.
4. Arrangements for financial responsibility for adverse effects.

No adverse effects.

APPROVAL BY THE COMMITTEE DOES NOT CONSTITUTE ANY ACCEPTANCE OR RESPONSIBILITY FOR THE CONDUCT OF THE INVESTIGATION. RESPONSIBILITY FOR CONDUCTING THE INVESTIGATION MUST REMAIN WITH THE INVESTIGATOR(S). THE COMMITTEE RESERVES THE RIGHT TO REVIEW AND/OR WITHDRAW ITS APPROVAL AT ANY TIME.

Phyllis E. Gendler
Name of Principal Investigator

Barbara Given
Major Advisor

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