CARDIOVASCULAR RISK ASSESSMENT OF PERIMENOPAUSAL WOMEN: A DESCRIPTIVE STUDY

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ABSTRACT

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Cardiovascular disease is one of the leading causes of death in older women. Certain risk factors have been identified that contribute to the development of cardiovascular disease. A descriptive study was conducted to identify how primary care providers screen perimenopausal women for cardiovascular disease. Data were collected by means of a self-administered questionnaire from 93 advanced practice nurses in the state of Michigan, and 70 physicians in Genesee, Lapeer, and Shiawassee counties in Michigan. A questionnaire was developed and based on the recommendations of the United States Preventive Task Force (1989). Data were analyzed using descriptive statistics. There are differences in the type of factors screened by primary care providers. These differences relate to screening for psychosocial issues, behavioral factors, and laboratory tests associated with cardiovascular risk. Further research needs to be undertaken to explain underlying causes for these differences.

This thesis is dedicated

to my mentor and friend

Susan Wentland Howard, M.D.

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CHAPTER I

INTRODUCTION

The Problem

Cardiovascular disease (CVD) is the most common cause of death in both men and women in the United States. (National Center for Health Statistics 1986). Past research has shown that the CVD death rate for men is twice that of women at any given age (Hazzard, 1986), however, the risk for women is significant. In 1983, CVD was the cause of 52% of all deaths in women. (Thom, 1987). Once stroke is removed from the definition of CVD, heart disease (CAD), was the third leading cause of death in women 35 to 39 years, second in women between 40 and 44 years, and the leading cause of death in women 65 years and older. Although the figures for CAD/CVD are impressive, preventative efforts in terms of CVD/CAD risk factor screening have been focused primarily on men (Eaker, Thom, Castelli, 1988). The focus of this research project is to describe the screening practices used by primary care providers to identify whether or not perimenopausal women are at risk for CVD/CAD.

Background

Holman, McGill, and Strong (1960) demonstrated that the atherogenic lesions known to cause CAD begin to develop as early as the second and third decades of life. Atherosclerosis is a gradual process of cholesterol deposition that disrupts the inner lining of the arterial wall. As this disruption occurs, the cells of the intimal lining are exposed to lipids, become roughened, disrupt platelets, and eventually a clot is formed. As this clot becomes hardened, the process repeats itself until the artery eventually is closed or a clot forms over the narrowed lumen. The end product of this process may be stroke, myocardial infarction or infarction of the other vital organs Holman, et al., (1960).

Once this process was identified, several studies were undertaken to identify the potential factors that may predispose one to the development of CVD (Framingham, 1948 through 1989, The Boston Nurses Study 1985, The Walnut Creek Study 1968, 1978). The following risk factors, identified through these longitudinal studies, contribute to the development of CVD in both sexes:

1. Family history of premature death from CAD (prior to age 50)
2. Diabetes mellitus
3. Smoking
4. Diet
5. Hypertension
6. Obesity

7. Sedentary life style
8. Male gender
9. Type A behavior
10. Elevated cholesterol levels

The risk profile was developed as a result of many studies. Although initially developed for men, this risk profile has been applied to women. (Perlman, Wolf, Ray, and Lieberknecht, 1988). Their findings suggest that although there may be some differences in the importance of the risk factors in women, screening for these risk factors at an early age may facilitate the gradual decline in premature death of women from CVD.

CVD risk factor screening can be described as both primary and secondary forms of prevention for disease. If, after thorough screening, a woman is found to be free of CVD risk factors, then a health care provider may institute counseling and education to facilitate the maintenance of this state (Pender, 1987). For this study, emphasis is placed on the primary preventive role of providers in screening for cardiovascular disease.

The Surgeon General (1978), in the development of the Objectives For The Nation for 1990, targeted behavioral risk factors as an area for concentration by health care providers. The Midcourse Review (1986) of these objectives demonstrated that evaluation of progress on these objectives has been thwarted by a lack of baseline data. The lack of data indicates that 1) screening is being done, but the data is not available, or 2) that screening is not being done.

The draft of the Year 2000 National Health Objectives is characterized by, "an increase of emphasis on prevention of disability and morbidity, greater attention to improve the health status of definable groups at highest risk of premature death, disease, and disability, and inclusion of more screening interventions to detect asymptomatic diseases and conditions early enough to prevent early death or chronic illness." (PHS, 1989, pg. 1).

Current literature still has not reported data regarding screening practices. The cause of this lack of data is unknown. Is it a problem in reporting screening activity? Is screening not being done due to time constraints, lack of reimbursement, lack of knowledge on the part of the provider, or other factors?

Standards for assessment of cardiovascular risk have been developed by the United States Preventive Task Force (1989). In the Task Force Report, consideration was given to both the prevalence (proportion of the population affected) and the incidence (number of new cases per year) of the condition. Conditions that were once common but have become rare because of effective preventive interventions (e.g., poliomyelitis) were included in the review (pg. XiX). The report also included only those conditions that could be altered by a preventative intervention. For each target condition, further delineations were made. First, only preventative services carried out on asymptomatic individuals were considered. The second condition mandated that the preventive effort must be carried out in the clinical setting. The focus of this study relates to perimenopausal women presenting for

"routine health maintenance visit", and not visits specifically related to symptoms of cardiovascular disease.

This report is exciting in that participants were from all specialties, and there was specific representation from the nursing community. This is also the first document in the United States that combines recommendations from all organizations, and not those related solely to medicine. The document combines the research, cost/benefit analysis, and efficacy reports to clearly identify what screening parameters should be undertaken at various points in the life cycle.

However, one concern remains. In relation to cardiovascular risk factors, most of the research has been conducted in relationship to men. In several studies, the results were then extrapolated to include women.

Statement of the Problem

Cardiovascular disease affects women as well as men. The cardioprotective effect of estrogen is lessened in perimenopausal women due to decreasing production of estrogen (Whitehead, 1988). Previous research efforts to identify a cardiovascular risk profile has focused on men and the results have been generalized to include women. It is not known how or to what extent providers assess cardiovascular risk in perimenopausal women. Thus, the question being addressed is: **DO PRIMARY CARE PROVIDERS PERFORM A RISK ASSESSMENT WITH PERIMENOPAUSAL WOMEN (AGES 40-55) FOR CARDIOVASCULAR RISK FACTORS DURING THE ROUTINE HEALTH MAINTENANCE VISIT? AND, WHAT ARE THE FACTORS ASSESSED?**

Purpose of the Study

The proposed study will attempt to describe how Certified Nurse Practitioners throughout the state of Michigan who care for perimenopausal women screen these women for risk factors for the development of coronary artery disease. Physician providers in the Tri-county area of Genesee, Lapeer, and Shiawassee counties will be included. The physician population will include all Family Physicians, Internists, and Obstetrician/Gynecologists in the Tri-county area.

The main objective of this research is to acquire an accurate description of how perimenopausal women are screened for cardiovascular risk factors by certified nurse practitioners in the state of Michigan. The physician group is selected as a population to facilitate the description of practice patterns because there is a paucity of nurse practitioners in the immediate area of the researcher.

Descriptions of practice patterns can be compared to the National Task Force recommendations which will be described in detail. Such a comparison may facilitate the generation of new standards targeted specifically around women.

Evaluation of practice is an important point in the nursing process. There are essentially two levels of evaluation in the nursing process: 1) evaluation of the client and 2) evaluation of practice. Evaluation of practice allows for the critical examination of previous practices. Such examination in turn may give insight to other areas for assessment, planning and intervention in relation to the practice of nursing.

Advanced nursing practice is predicated on health and wellness issues rather than treatment of disease. This descriptive study is but a first step in the development of mechanisms whereby nursing can facilitate wellness by helping perimenopausal women develop a healthy lifestyle.

Conceptual Definitions

Primary Care Providers: In this study, a provider is defined as a licensed health care professional that a client may approach to take care of their health needs. The provider may be an Advanced Practice Nurse (Nurse Practitioner) providing primary care for perimenopausal women or a Medical Doctor (MD) with clinical specialties in Family Practice, Internal Medicine, or Obstetrics/Gynecology.

Rationale for subjects: Nurse Practitioners and physicians providing primary care share the common role of assessment. Focus on practice in a specific area will facilitate recognition of practice patterns in relation to the assessment of perimenopausal women for cardiovascular risk factors.

A major focus for nurses in advanced practice relates to health promotion, wellness issues, health education, and interventions to promote the health of individuals in their practice.

Although it is recognized from the outset that the results from the Tri-county area may not be generalizable, and pooling of all results is not possible, a description of

practice differences between physicians and advanced nurses may be possible. Evaluation of compliance with the National Task Force recommendations will also be possible.

Risk Assessment: A strategy to identify factors (either by questioning the patient/client or performing diagnostic testing) to identify whether or not a factor known to contribute to the development of CAD is present.

Perimenopausal Women: McKeon (1987) in her article on Dispelling Menopause Myths, states "Contemporary thinking views menopause as a normal physiologic event and a change in direction. The perimenopausal transition-- the 10 to 20 years surrounding the actual process-- is seen as a natural process and a time of development and change" (pg. 29).

Utian (1987) indicates that the climacteric syndrome fulfills the postulates of an endocrinopathy; for example, removal of the ovaries before the menopause causes tissues responsive to specific ovarian hormones to undergo changes resulting in specific menopausal symptoms. Conversely, replacement of the ovarian hormones reverses these symptoms.

Sandelowski (1981) reviews several works related to symptomatology of women undergoing menopause: "While, on the one hand, we are presented with a picture of the menopausal woman as a depressed, anxious, and generally unstable person, we are also offered Mead's observation that they are zestful and eager for life and the new challenges that await them" (pg. 58).

According to the National Center for Health Statistics there are over 40 million women in the United States 50 years old or older. The

average age of natural menopause is 51.5 years with the range being ages 40-55 (National Center for Health Statistics, 1986).

There are many definitions associated with menopause. For the purpose of this study, the perimenopausal woman is defined as being in the age range of 40-55. At this stage of life, there are many natural processes occurring. There is also the potential for change and development.

Women in this age group have undergone tremendous changes in their lifestyles. Since the 1960's there has been a tremendous upsurge in the number of single and married working mothers. Entrance into the workforce creates multiple role stress and strain [Verbugge, (1982), Sorenson, Pirie, Folsom, Luepker, Jacobs, Gillum (1985)].

Sorenson et al, (1985) assessed at the impact of working on the health of women and concluded that entrance into the workforce had no effect on health. Research in this area has 2 major drawbacks: 1) not taking into account other roles that working women have and 2) not looking at health changes longitudinally to take into account changes in work force participation during the past decade.

Giordano (1988) indicates that parents of "baby boomers" or those women born between 1930 and 1950 are the "caught" generation. These individuals are in the midst of careers and marital responsibilities and must cope with not only parenting issues, but also with aging parents.

In summary, the perimenopausal woman is facing many new roles, has a multitude of stressors related to not only changing roles, but also in coping with the naturally occurring physiologic changes associated with menopause.

Rationale for inclusion of Perimenopausal Women in the Study: The literature has identified that perimenopausal women are at risk for cardiovascular events. Conversely, perimenopausal women are the least symptomatic in relation to cardiovascular disease. The rationale for using perimenopausal women is related to the relative paucity of information available to clinicians. In terms of this study, it is assumed that cardiovascular risk assessment of perimenopausal women allows time for the development of strategies to reduce the cardiovascular risk status instead of waiting for a period of time when they may be at greater risk or show development of disease.

Cardiovascular Risk Factors: Behavioral, psychological, and/or genetic factors that are known to contribute to the development of coronary artery disease.

1) Family history of premature death from CAD disease (prior to age 50)
2) Diabetes mellitus
3) Smoking
4) Diet
5) Hypertension
6) Obesity
7) Sedentary life style
8) Type A Behaviors such as hostility and aggression to changes in life
9) Elevated cholesterol levels

Since the study is directed at women, male gender is removed from the definition of risk factors.

Routine Health Maintenance Visit: For the purposes of this study, a routine health maintenance visit is that time when a woman presents for a non-acute, non-obstetrical visit. The function of this visit may be a yearly physical, "pap and pelvic", or a yearly "check-up". This may be an initial visit, but the purpose is for health maintenance and is not related to cardiovascular symptoms.

Health Maintenance: Any proactive intervention, the purpose of which is either to maintain or improve an individual's health as contrasted to the treatment of disease.

Health Promotion: Pender (1987) presents definition of health promotion as consisting of activities directed toward increasing the level of well-being and actualizing the health potential of individuals, families, communities, and society. This study provides a description of how providers identify behaviors that are "risky" or capable of diminishing the level of wellness.

Disease Prevention: Pender (1987) also presents Disease Prevention as consisting of three levels: 1) Primary Prevention consists of activities directed toward decreasing the probability of specific illnesses or dysfunction in individuals, families, and communities, including active protection against unnecessary stressors; 2) Secondary Prevention emphasizes early diagnosis and prompt intervention to halt the pathological process, thereby shortening its duration and severity and enabling the individual to regain normal function at the earliest possible point; and 3) Tertiary Prevention comes into play when a defect or disability is fixed, stabilized, or irreversible. Rehabilitation, the goal of tertiary prevention, is more

than halting the disease process itself-- it is restoring the individual to an optimal level of functioning.

For this study, the definition of Primary Prevention is of major importance. Although the efficacy of health promotion activities is not completely documented for women, it is reasonable to assume that prevention of the disease is more efficacious in reducing mortality and morbidity than other forms of prevention as defined.

Assumptions

1) Health maintenance visits are patient generated. That is, the patient/client seeks access to care based on a belief that screening for disease or the lack therof is valuable.

2) Advanced Practice Nurses and Physicians provide a similar level of care in relation to assessment of health and illness. The difference between medical and nursing care lies in the planning and interventional phases of the encounter.

3) Primary Care Providers, as well as perimenopausal women, have options in choosing available health care options.

4) Primary Care Providers will accurately report their practice.

5) Although the known risk factors for cardiovascular disease have been developed through studies relating to men, these risk factors also apply to women.

Limitations of the Study

It is realized from the inception of this study that there are several limitations:

1) The results from physicians will be limited to the Tri-county area of Genesee, Lapeer and Shiawassee counties and may not be generalizable.

2) This study is limited to the assessment of perimenopausal women only.

3) This is a voluntary study which provides for self-selection versus random assignment.

4) The study design does not identify factors which may affect provider screening behavior.

5) Since this study asks about screening during a "routine health maintenance visit", there is a population of perimenopausal women that will not be screened. Thus, women that are being screened may represent a population not at risk for cardiovascular disease by virtue of prior health maintenance activities.

Overview of Proposed Research

In Chapter I, the introduction, background, statement of the problem, purpose of the project, conceptual definitions, assumptions, and limitations of the research have been presented.

Chapter II presents the theoretical basis for the research. The conceptual framework, major concepts of the study, and the relationships between the framework and the study will be discussed.

Chapter III examines the current research in relation to the specifics of determining cardiovascular risk for perimenopausal women. Health promotion/disease prevention aspects of primary care will also be discussed.

Chapter IV provides the methodology to be used in the study. Included in this section will be a description of the research design, data collection procedures, subject selection, and operational definitions of the variables. Means of data scoring, reliability and validity, analysis of data, and protection of human rights will be described.

Chapter V provides a summary of the project. The results and analysis of these results will be presented. Tables will be used to illustrate results of the data.

Chapter VI outlines the contributions of this study. Implications for future research, advanced nursing practice, primary care education and primary care will be discussed.

The relationship of the model to the study will also be presented.

CHAPTER II

Overview

The perimenopausal woman has been described conceptually as zestful, eager for life; and the perimenopausal years are seen as a time of development and change. This process of development and change can be interpreted as a process of becoming, or an "invariant one-way trend" (Rogers, 1979, pg. 55).

Viewing perimenopausal women as in the process of becoming is the foundation of this study. Martha Rogers' (1979) theory of Unitary Human Beings provides the conceptual basis for the study of perimenopausal women in relation to cardiovascular risk factors.

Rogers (1979) describes Nursing as both a Science and an Art (pg. 121). "The science of nursing is a body of abstract knowledge arrived at by scientific research and logical analysis. It is this body of knowledge that encompasses nursing's descriptive, explanatory, and predictive principles indispensable to professional practice in nursing. The practice of nursing encompasses the art of nursing and is the utilization of nursing's body of abstract knowledge in service to human beings. New dimensions of artistry are achieved as the science of nursing grows and is incorporated into practice" (pg. 121-122). Rogers

also says that Nursing exists to serve people. Nursing's responsibility is to society, and has no dependent functions, only collaborative ones.

For this study, the role of assessor is taken from the descriptive component of Roger's definition of nursing. The descriptive component (assessment) provides the basis to explain and possibly predict phenomena. In terms of the study, assessment of cardiovascular risk factors provides the basis to formulate interventions. As will be shown, the guiding principles of synchrony, unidirectionality, and resonancy facilitate the assessment process.

Rogers defines human beings as a unified whole possessing his own integrity and manifesting characteristics that are more than and different from the sum of his parts (pg. 47). The life process of Human Beings is characterized by wholeness, openness, unidirectionality, pattern and organization, sentience and thought.

Human beings cannot be separated from their environment. The energy fields of humans and their environment are in a state of constant interchange. "It is this interchange that portends the creativity of life" (pg. 54). Each perimenopausal woman is interacting with her environment; and that environment is changing constantly. Consequently, the nurse sees the perimenopausal woman at a point in space time and assesses the interaction between the woman and her environment. This environment encompasses not only the internal, but external environment.

Principles of the Theory

The principal of synchrony is stated, "Change in the human field depends only upon the state of the human field and the simultaneous state of the environmental field at any given point in space time" (pg. 98). This indicates that no single event may be viewed in isolation, and that interactions are not static. Events, situations, reactions are continually changing.

Unidirectionality: "The life process is a becoming. The evolution of life exhibits an invariant one-way trend" (pg. 55). In other words, time is always passing and cannot be repeated.

Resonance: The principle of resonance postulates that change in pattern and organization of the human field and the environmental field is propagated by waves. The Life Process in human beings is a symphony of rhythmical vibrations oscillating at various frequencies (pg. 107). This means that interactions between the energy fields of humans and their environments may be harmonious, or may be problematic resulting in discordance, and may vary in intensity and complexity.

Reciprocity: The human and environmental fields are continually interacting with one another. This means that human beings and their environments cannot be taken separately. Both of these energy fields are dynamic in nature, thus changes in each are occurring simultaneously which results in different actions and reactions. Thus, the dynamic interaction between human and their environments.

In relation to this study, the principle of synchrony alerts the nurse that the assessment phase is only a part of the total picture.

The risk factors that are apparent during the initial interview may not be apparent at a later encounter. This is the basis for the need for continuing assessment of risk factors at repeated visits. Unidirectionality provides opportunity for intervention. The trend is toward a healthier lifestyle. Risk assessment provides the database for effective intervention that can facilitate an upward spiral of the life process. Resonance gives direction to the assessment phase. Assessment can effectively determine problematic interactions with the environment that may result in discordance (cardiovascular event). Reciprocity allows positive change, e.g., smoking cessation creates a beneficial change in environment, which in turn produces positive changes in the internal environment such as reduced vasospasm of the coronary arteries. Weight loss reduces demand on the myocardium resulting in decreased blood pressure, resulting in decreased risk of cardiovascular events, and so on.

In summary, the guiding principles of Rogers theory of Unitary Human Beings guides this study of perimenopausal women. The assessment or descriptive function of nursing provides the basis for intervention. Rogers looks at human beings in a process of becoming. She also indicates that nurses look at a person at a point in space time. The focus of this study is whether or not providers are looking at perimenopausal women at a point in space time that would allow for risk factor reduction and facilitate the process of becoming.

Conceptual Framework

(Figure 1 next page)

As can be seen in Figure 1, the nurse and the patient/client have to interact with their environments. This is demonstrated by the arrows. The boundaries created by these arrows are only schematic representations of interactions. Energy fields without boundaries are not conducive to concrete graphic interpretation.

The interacting roles of the Advanced Practice Nurse are also dynamic in response to the environment. How the interactions intertwine depends on repatterning. Changing current patterns in response to a stimulus occurs on the part of the nursing and the patient. Energy fields are exchanged by both participants in the interview. The patient gives information that alerts the nurse to the patient's human-environment interaction that is occurring at a point in space time. This then alerts the nurse to which role is appropriate and sets the rotational axis in motion. The patient reaction to a nurses's specific role is assessed, and repatterning by the nurse is undertaken.

The nurse is also a product of an interaction between human and environmental energy fields. Part of the environment of the provider is the product of an interaction with peers, mentors, and colleagues. In this study, the interaction of other providers (nurses and physicians) plays an important role. Practice patterns of the nurse are developed as a reaction to the patterns of others. Knowledge of how others react to their environment allows the nurse to evaluate her reactions to her environments and facilitates her process of becoming. Becoming in this sense can be described as growing in her/his role as clinician.

Research has demonstrated that certain behavioral reactions to internal and external environments can be disruptive to the human energy

field resulting in discordance, or in this sense, cardiovascular disease. The role of the advanced practice nurse is to recognize these potential behaviors that are known to cause discordance, otherwise known as primary prevention of disease.

It is hoped that this descriptive study will facilitate the process of becoming for both perimenopausal women and nursing.

CHAPTER III

Overview

This chapter is dedicated to a review of the pertinent literature related to provider screening of perimenopausal women for cardiovascular risk factors.

There is currently a dedicated paucity of literature related to screening practices of health care providers. Many nonempirical articles are dedicated to review of current recommendations from various agencies about who should be screened for various problems; however, description of actual practice in terms of screening behaviors does not exist.

Theories of Health Promotion

Screening is a mechanism of health promotion. If screening is done, then the efficacy of changing client behaviors is potentially enhanced according to both Pender (1987), Becker and Maiman (1985).

Pender (1987) gives several theories and types of health promotion behavior. She identifies a "model" for health promotion. However, the model is very similar to Becker and Maiman's Health Belief Model (1985).

Efficacy of Pender's model is not yet completely documented. The research described in the health promotion literature is largely descriptive and does not lend information to this study other than the theoretical belief that if screening is done, the chance of changing client behavior is enhanced. Changing behavior would be accomplished by assisting the individual to change their health beliefs in relation to cardiovascular risk.

In view of the lack of data regarding screening practices, literature from: 1) The Preventive Services Task Force, 2) Literature related to the specific risk factors, and 3) The draft of the Year 2000 Objectives for the Nation will be discussed.

Preventive Services Task Force

Background

The U.S. Preventive Services Task Force was convened in 1984 under the auspices of the U.S. Public Health Service. The focus of the non-Federal body of experts was to analyze trends related to increased interest in preventive services from both public and private sectors. The make up of the Task Force included experts from nursing and medicine, as well as others. The Task Force met 14 times between July, 1984 and February, 1988. The overall goal of the Task Force was to review and summarize evidence related to screening parameters for 60 target conditions (one of which was cardiovascular disease) affecting

patients from infancy to old age. The Guide to Clinical Preventive Services is the product of that extensive effort.

The Guide is the culmination of over four years of literature review, debate, and synthesis of critical comments from expert reviewers. It offers the Task Force members' best judgement, based on evidence, of the clinical preventive services that prudent clinicians should provide their patients in the course of routine clinical care" (Lawrence, 1989, pg. iii).

The Guide to Clinical Preventive Services is organized to facilitate thoughtful decision making on the part of the clinician. The introduction is an overview of the process and rationale used for production of the document. Seven critical findings developed as a result of the review of evidence found in the report of the Task Force: (Pg. xv-xiv).

1) The data suggest that among the most effective interventions available to clinicians for reducing the incidence and severity of leading causes of disease and disability in the U.S. are those that address the personal health practices of patients. Primary prevention as it relates to such risk factors as smoking, physical inactivity, poor nutrition, and alcohol and other drug abuse holds generally greater promise for improving overall health than many secondary preventive measures.

2) The proper selection of screening tests requires careful consideration of the age, sex, and other individual risk factors of the patient if the clinician is to minimize the risk of adverse effects and unnecessary expenditures due to screening.

3) Conventional clinical activities (e.g., diagnostic testing) may be of less value to patients than activities once considered outside the traditional role of the clinician (e.g., counseling and patient education).

4) The shifting responsibility of clinicians also implies a changing role for patients. The increasing evidence of the importance of personal health behaviors and primary prevention means that the patients must assume greater responsibility for their own health.

5) Preventive services need not be delivered exclusively during visits devoted entirely to prevention.

6) For most topics examined in this report, the Task Force found inadequate evidence to evaluate effectiveness or to determine the optimal frequency of a preventive service.

7) The techniques that have been developed by the U.S. Task Force for the standardized review of evidence and for developing clinical practice recommendations based on documented decision rules are equally applicable to many other practices.

As has been shown, nursing has been instrumental in the development of these trends. Nursing has traditionally been interested in individual health practices and behaviors. The traditional diagnostic domain has not been a function of nursing. Therefore, emphasis on behavior, education, personalized intervention, and advocacy for the individual have been a part of the role of the nurse. It is for this very reason that nurses were instrumental to the development of the Task Force report.

In relation to this study, on of the critical findings has major implications. The Task Force cites inadequate evidence to evaluate screening practices. This indicated that evaluation of provider/clinician screening practices is lacking. Without knowing baseline screening behavior, it is impossible to evaluate whether or not the screening is effective.

This methodology section of the Guide delineates the method of systematic evaluation of the effectiveness of clinical preventive services. Criteria for determining effectiveness of a particular intervention, efficacy of screening tests, reliability, and several other factors utilized by the Task Force are outlined in detail. Thus, the clinician may review this information and make judgments about the information relevant to his/her practice. The Guide serves as a basis for this thesis.

Age specific charts are available in the Guide that detail what screening parameters should be undertaken at which age group. The charts are organized to include a screening, counseling and immunization section. Recommendations for "high-risk group" is based on the traditional comprehensive patient history.

Certain principles gleaned from empirical evidence are presented to familiarize the clinician to ways of changing client behavior. This chapter is aimed at physicians to increase physician awareness of principles of behavior change. As previously discussed, this is a "new role" for medicine. Nursing experience in this role can serve as a positive model.

Recommendations of the Task Force appear first in each chapter. Each chapter is dedicated to a different problem and include burden of suffering, efficacy of screening tests, effectiveness of early detection, recommendations of others, a discussion, and ends with the clinical intervention. The rationale for including this information is once again to allow the clinician to use his/her own judgments as to which parameters to use.

Appendix A of the Guide summarizes the recommendations for screening interventions, along with quality of evidence and strength of recommendations.

Relationship To The Study

The following items are extrapolated, and will be used as guidelines for screening in the survey used for this research. The screening practices related to coronary artery disease are:

1) History: Dietary intake, physical activity , tobacco use.
2) Physical Exam: height and weight, blood pressure.
3) Laboratory/Diagnostic Procedures: Nonfasting total blood cholesterol, fasting glucose for markedly obese, persons with a family history of diabetes, or women with a history of gestational diabetes. EKG for men who have risk factors for myocardial infarction.

Although family history of coronary heart disease is not specifically stated in the table, the importance of a comprehensive history has already been included. "The need for evaluating risk

factors underscores a time honored principle of complete medical history...". (pg. XV)

The Guide gives the practicing clinician a comprehensive review of literature and recommendations that may be instituted in the clinical stetting.

A criticism of the Guide is certainly not the fault of the Task Force effort. Studies of cardiovascular risk factors have been conducted primarily on men. As a result, false assumptions that women do not suffer from CVD may be generated.

Another concern in relationship to the Guide is the notable lack of guidelines regarding developmental and psychosocial components of risk for cardiovascular disease. Although it may be argued that a comprehensive history would entail such issues as developmental milestones, stressors, behavior types, etc., the clinician may feel that such issues are as important to one's overall health as more concrete diagnostic testing. This lack of recommendation for screening stress-related issues creates difficulty for the researcher attempting to describe practice patterns and evaluate them against a standard.

The remainder of this chapter is dedicated to literature associated with the individual risk factors. A short, pertinent review of the draft of the Year 2000 Objectives for the Nation (PHS, 1989) will complete the literature review for this study.

The research identifying the cardiovascular risk status is extensive and well-supported.

Cardiovascular risk status is defined as the presence of a family history of coronary heart disease, elevated cholesterol levels, diabetes

mellitus, smoking, diet, hypertension, obesity, sedentary lifestyle, male sex, and stress. Since this study proposes to work with women, male sex is not valid. Specific definitions of variables related to these concepts will appear at the end of the definition section for each concept. The risk profile is based on the American Heart Association declaration of risk factors for cardiovascular disease (JAMA, 1986).

CONCEPT: Family History of Coronary Disease

Becker and Kwiterovich (1988) attempt to define this variable on the basis of an exhaustive accounting of past research. The documentation of case-control retrospective studies points to the fact that there is a relationship between a family history of coronary artery disease and heredity (Rissanen and Nikkila, 1977, Rissanen, 1979, Nora, Lortscher, and Spangler, 1980).

Three prospective studies, The Western Collaborative Group Study, The Framingham Heart Study, and the Harvard Nurses Study, have documented a fairly consistent risk range of 2 times, 1.5 times and 2.8 times respectively, for the development of CVD; this risk occurs when the parent or sibling developed a cardiovascular event prior to the age of 60 years old.

Family history as a risk factor has not been consistently defined. In order to attempt to identify a consistent definition of this risk factor, Hunt, Williams, and Barlow (1986) applied several different definitions of "family history" of CVD to predict the relative risk of CVD of adult relatives of 8200 high school students. Families with 2 or more relatives with CVD had risk of three to six times that of the

general population. Those with one relative encountered a relative risk of 1.4.

Definition of the Concept:

For the purposes of this study, the definition of family history of CVD is: at least a first-degree relative(s). (e.g., mother, father, brother, sister, son, daughter) with a history of cardiovascular event prior to age 60.

Variable Used to Measure Concept:

This risk factor will be identified by the question, "When a perimenopausal woman (age 40-55) presents to your office for a routine health maintenance visit do you or your staff routinely inquire as to the cause of death of family members?".

CONCEPT: Cholesterol Levels:

The next concept to be discussed is the effect of cholesterol in terms of cardiovascular risk.

In the report of the expert panel on "Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults" coordinated by the National Heart, Lung, and Blood Institute in 1988 provides comprehensive data to support the role of Low Density Lipoproteins (LDL) in Coronary Heart Disease (CHD). Several studies analyzed by the panel point to the steady increase in development of CHD in men who demonstrated high serum cholesterol levels over six years.

The issue of whether or not lowering the LDL would have a cardioprotective effect was the focus of ten randomized clinical trials. These trials included placebo versus cholestyramine and other lipid lowering drugs, and diet therapy. Follow up by angiography produced a statistically significant reduction in atheroma formation as well as reduction of coronary atherosclerosis in men with coronary bypass grafts who included diet therapy in the treatment regime. (Blankenhorn, Nessm, Johnson, Sanmarco, Azen, Cashin-Hemphill, 1987, Lipid Research Clinics Programs, 1984, Delong, Delong, Wood, Lippel, and Rifkind, 1986, Castelli, 1986).

In spite of the lack of women in the studies, the results have been generalized to all individuals in terms of screening guidelines, evaluation, and treatment of high blood cholesterol.

Some of the recommendations of the expert panel include:

1) The total cholesterol should be measure in all adults 20 years of age and over at least once every five years.

2) Patients with desirable blood cholesterol (<200 mg/dl) should be given advice and educational materials on the diet recommended for the general population and advised to have another serum cholesterol test within five years. (Report of the Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults, 1988).

This report then details other methods of analysis and treatment in the person with high blood cholesterol. Once again, women were not considered in the treatment cohorts or random clinical trials.

The lack of testing the hypothesis of increased risk of cardiovascular disease due to high blood cholesterol in women is

disturbing. The research indicates that this may only be a problem in men due to the overabundance of information utilizing men as subjects and the paucity of information regarding women. This may falsely lead the practitioner to believe that cholesterol screening is not important in women, especially perimenopausal women.

Definition of the Concept:

Screening for cholesterol levels is defined as a routine evaluation for serum cholesterol.

Variable used to Measure Concept:

This risk factor will be identified by the question, "When a perimenopausal woman (age 40-55) presents to your office for a routine health maintenance visit do you or your staff routinely order a serum cholesterol?"

CONCEPT: Diabetes Mellitus

Diabetes mellitus is a confounding factor in the analysis of cardiovascular risk factors for the development of CVD. There seems to be three major areas in which diabetes can contribute to coronary artery disease. The first, as discussed by Young, Lopez, and McNamara (1988), relates to the absorption of dietary cholesterol and cholesterol synthesized in the small intestine of diabetic rats. Diabetes mellitus may contribute to coronary artery disease by hyperphagia brought on by the insufficient metabolism or "starvation effect" of diabetes mellitus.

The second hypothesis relates to the effect of chronic diabetes on myocardial cell metabolism and insulin sensitivity. Barrett, Schwartz, Young, and Jacobs (1988) studied dogs in respect to the free fatty acid content of the myocardium after infusions of insulin, fatty acids, and normal saline. The study found that cardiac muscle is markedly resistent to stimulation of glucose uptake by physiologic concentrations of insulin, and this resistance cannot be accounted for solely by higher levels of ambient fatty acids. Therefore, with the resultant increase in free fatty acids found in the diabetic patients, the heart will suffer an increase in fat proliferation of the myocardium. This is an animal study, the true results in humans are not known conclusively.

The third hypothesis relates to enhancement of platelet aggregation by low density lipoproteins in patients with IDDM (Watanabe, Wohltman, Klein, Colwell, and Lopes-Virella, 1988). Increased platelet aggregation has been shown in diabetic patients even when their plasma lipid levels are normal. Thus, although plasma lipoprotein levels may play a role in enhancing platelet aggregation in diabetics, there may be other factors as well.

Definition of the Concept:

Diabetes has been shown in animal and human studies to contribute to the risk profile for the development of coronary artery disease. This contribution may be in the form of altered fat metabolism, weakening of the myocardium due to abnormal metabolism, and/or increased platelet aggregation. Basic screening for diabetes mellitus is the evaluation of the fasting blood sugar on a yearly basis.

Variable Used to Measure the Concept:

The question used to identify if screening is done for diabetes reads, "When a perimenopausal woman (age 40-55) presents to your office for a routine health maintenance visit do you or your staff routinely order a fasting glucose level?."

CONCEPT: Smoking

Smoking is a major risk factor for cardiovascular disease. Nicotine may contribute to the magnitude and the frequency of reversible myocardial ischemia in coronary artery disease (Benowitz, 1986).

Smoking a cigarette or an infusion of nicotine activates the sympathetic nervous system (Cryer, Haymond, Santiago, & Shah, 1976). In healthy people, this results in an increase in heart rate and blood pressure, cardiac stroke volume and output, and coronary blood flow (Nicod, Rehr, Winniford, Campbell, Firth, & Hillis, 1984). Other changes in the vascular system include cutaneous vasoconstriction, associated with a decrease in skin temperature, systemic venoconstriction, and increased muscle blood flow (Freuncl and Ward, 1960). Circulating free fatty acids, glycerol, and lactate concentrations increase (Benowitz, 1986), contributing to the atheroma formation.

Thus, the factors relating to smoking and cardiovascular disease seem to be related to increased irritability of the anterior walls, increased blood flow, as well as an increase in risk of atheroma formation.

Definition of the Concept:

Although the studies cited deal primarily with men, it cannot be assumed that women are immune to the effects of nicotine, as well as the pulmonary effects of smoking. Therefore, cigarette smoking, regardless of the amount of cigarettes per day, is considered a risk factor.

Variable Used to Measure Concept:

The question "When a perimenopausal woman (age 40-55) presents to your office for a routine health maintenance visit do you or your staff routinely obtain a smoking history?" will measure screening for smoking behavior.

CONCEPT: Diet

The rationale and cardiovascular implications for reducing cholesterol in the diet has been previously established. The Expert Panel on the Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (1988) identifies three dietary habits that contribute greatly to the development of elevated plasma cholesterol. First is the high intake of saturated fatty acids. The average intake is 13-15% of total calories, but many Americans consume 15-20% of their calories as saturated fatty acids (pg. 29). The second "bad habit" is a relatively high intake of cholesterol. Many patients with high-risk LDL cholesterol levels exceed the current average intake of about 350-450 mg/day. Thirdly, a caloric intake that exceeds the body's demand causes fat storage. Cholesterol intake should be less than 300 mg/day.

Definition of the Concept:

Although the documentation is not reported, this study will include a high fat diet as a risk factor for coronary heart disease.

Variable Used to Measure Concept:

The question: "When a perimenopausal woman (ages 40-45) presents to your office for a routine health maintenance visit do you or your staff routinely obtain a diet history?" will evaluate if screening is being done.

CONCEPT: Hypertension

The complete pathogenesis and treatment of hypertension is beyond the scope of this study. However, a brief understanding of the pathophysiology of hypertension in relation to myocardial ischemia is essential.

Brush, Cannon, Schenke, Bonow, Leon, Maron, and Epstein (1988), studied a group of 12 hypertensive patients with clinical complaints of chest pain. The hypertensive group with angina had significantly higher mean arterial pressure and systemic vascular resistance index than the normotensive control group. The researchers concluded that anginal chest pain may be due to myocardial ischemia in hypertensive patients, that the mechanism responsible for ischemia and resulting angina appears to be an abnormally elevated resistance to coronary blood flow and that the increased resistance occurs in the coronary microcirculation.

A problem with this study is that 50% of the study group was male, and 60% of the control group was also male.

Lichenstein, Steels, Hoehn, Bulpitt, and Coles, (1989), analyzed data from the British Department of Health and Social Services Hypertension Care Computing Project to study determinants of visit frequency in hypertension management. The study results indicate that physicians are attempting to control hypertension, especially when the diastolic pressure is >104. There are many technical troubles with this study in terms of ability to explain variances, what longer or shorter intervals really mean, etc. It does suggest, however, that increased monitoring activity is taking place.

The risk of cardiovascular complications related to hypertension increases continuously with increasing levels of both systolic blood pressure and diastolic blood pressure (The Joint National Committee on Detection, Evaluation, and Treatment of High Blood Pressure, 1988).

Definition of Concept:

It is well documented that hypertension is a major risk factor for the development of cardiovascular disease. Both over and undertreatment controversies exist and are beyond the scope of this paper. Screening in the form of measuring the blood pressure with a sphygmomanometer and stethoscope is imperative, as has been documented; thus, the rationale for the inclusion of this risk factor in the study.

Variable Used to Measure Concept:

The question, "When a perimenopausal woman (age 40-55) presents to your office for a routine health maintenance visit do you or your staff routinely measure blood pressure?" will evaluate screening for hypertension.

CONCEPT: Obesity

The question of obesity or "overweight" is not whether or not the extra fat creates hardships for the cardiovascular system -- it is finding a simple definition of obesity or overweight. Obesity refers to an excessive accumulation of body fat. In most individuals, these two concepts are related; however, defining the point at which increased weight or body fat is labeled "overweight" or "obese" is at best tenuous. The National Institute of Health Consensus Panel concluded that $\geq$ 20% overweight increases the risk for diabetes, hypertension, lipid disorders, and cardiovascular disease.

The remaining question is what constitutes normal body weight? The Metropolitan Life Weight Tables of 1983 have been criticized by some due to the lack of control in methods determining what the "ideal" may be. The Metropolitan Tables are not corrected for age, and represent only specific populations (Burkman, 1988). Some other difficulties include amount of clothing worn by subjects, differences in time of day of measurements, and inequalities between men and women. Some authors suggest that perhaps measurement of body mass may be more accurate; however, once again, the body mass measurements that predict disease remain unknown (NIH, 1985).

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Definition of Concept:

Although a definition of obesity does not truly exist, for the purposes of this study, measurement of weight indicates an awareness on the part of the provider that increasing weight poses a threat for the development of cardiovascular disease.

Variable Used to Measure Concept:

The question, "When a perimenopausal women (ages 40-55) presents to your office do you or your staff weigh the patient?" will indicate the screening behavior.

CONCEPT: Lack of Exercise

The role of exercise in the prevention of heart disease is not completely understood; however, there seem to be a few prevailing theories. Wood (1988) contends that exercise causes a loss of body weight, and consequently there may be a decrease in plasma lipoproteins. Thompson (1988) took a group of sedentary men and enrolled them in a diet-controlled exercise program. The diet control was introduced in attempt to separate whether the exercise or the diet caused an increase in the HDL component. His results showed that intense, prolonged exercise (stationary bicycling five times a week for one hour at 80% of the predetermined maximum heart rate over a three month period) caused a 13% average increase in HDL.

Abbott, Levy, Kennel, Castelli, Wilson, Garrison, and Stokes (1989) evaluated Cardiovascular Risk Factors in Healthy Adults as part

of the Framingham data. They found, as well as did the Coronary Primary Prevention Trial (1983), that cholesterol levels were lowered, blood pressure was lowered, and insulin sensitivity was increased with exercise.

The subjects of the Framingham study were not exercised as rigorously as those in Thompson's study. The exercise consisted of treadmill walking with gradual increases in grade and speed of the treadmill.

McKeag (1983) recommends an exercise prescription that includes a frequency of 3-5 times per week, intensive enough to allow the patient to achieve 60-90% of their maximum pulse rate, 50-80% of the maximum aerobic capacity, and duration of 15-60 minutes (continuous) to achieve fitness.

Definition of Concept:

The relationship between exercise and the lowering of cholesterol levels is well documented. Theories of enhancement of well-being, weight loss, as well as muscle strengthening also exist but are harder to quantify. For the purposes of this study, lack of exercise means failure to engage in aerobic activity (walking, swimming, running, cycling) for twenty minutes at least three times per week.

Variable Used to Measure Concept:

The question, "When a perimenopausal woman (age 40-55) presents to your office for a routine health maintenance visit do you or your staff routinely ask whether or not the patient performs aerobic activity on a

regular basis?" will measure whether or not screening is occurring for exercise.

CONCEPT: Stress-Type A Behavior

Stress as a concept is difficult to measure, quantify, and define. The focus will be the definition and inclusion of definitions of Type A behavior.

The Type A behavior pattern has been extensively researched and reported in the literature. The components of this behavior pattern include the extremes of competitive striving for achievement, hostility, time urgency, aggressiveness, vigorous voice, and demonstrative psychometer mannerisms (Mathews, Glass, Rosenman, Bortner, 1977).

The Framingham study (Haynes, Feinleib, and Kannel, 1980). demonstrated a relationship between the incidence and prevalence of the Type A Behavior Personality and the incidence and prevalence of coronary heart disease.

Allen and Scheidt (1988) reported on the controversy of whether Type A behavior is a risk factor in cardiovascular disease. Ragland and Brand (1988) showed a lower mortality rate among the Type A person demonstrating anger and hostility when compared to the more agreeable, calmer Type B personality in a follow-up to the West Collaborative Study. The controversy stems form many technical difficulties in the research of Ragland and Brand. Some of these problems cannot be overcome in view of the retrospective nature of the criticism.

The issue of Type A personality is at best complex, and dimensions of the concept, such as aggressiveness, hostility, and time pressure appear to have different connotations to different researchers.

To add more confusion to the body of knowledge concerning Type A behavior and coronary artery disease, a meta-analysis of 83 studies relating these concepts was conducted by Booth-Kewley and Friedman (1987). Not only was Type A behavior linked to an increase in risk, but depression also appears to increase that chance of coronary heart disease.

There are several questionnaires and interview techniques designed to bring out Type A behaviors. The structured interview is a 20 minute interview requiring a highly skilled interviewer to obtain the appropriate information (WCGS, 1960). The Jenkins Activity Survey, developed during the course of WCGS was developed as an easy-to-administer pencil and paper test to assess for Type A behavior. However, as Allan and Scheidt (1988) point out, the physical attributes and nuances characteristic of Type A behavior cannot be measured. The Framingham study (Kannel, 1980) used a 16 item questionnaire to measure coronary-prone behavior.

As can be seen by this brief discussion, the mechanism for assessment of Type A behavior is extremely difficult and seems to use a multidisciplinary as well as multi-instrument approach.

Definition of Concept:

In summary, for this study, the assumption is made that changing life events cause different reactions in different people. Negative

reactions in terms of hostility or anger predispose these individuals to a relative risk of coronary artery disease. The frequency of these reactions may be related to the risk of CVD. That is, the more explosive the individual, the more at risk the individual.

Variable Used to Measure Concept:

The clinician's awareness that changing life events and strong reactions to those changes may be considered a risk factor for CVD will be demonstrated by an affirmative answer to the questions: "When a perimenopausal woman (age 40-55) presents to your office for a routine health maintenance visit do you or your staff routinely ask about major life changes (new job, loss of job, change in job, addition or loss of children and ...) Do you investigate attitudes toward change?"

PROMOTING HEALTH/PREVENTING DISEASE: YEAR 2000 OBJECTIVES FOR THE NATION (Draft for Public Review and Comment - PHS, 1989)

Since 1987, the Public Health Service (PHS) has been intensively involved in the oversight and development of objectives for the nation in relation to preventing disease and promoting health. The draft, available since 1989, is a compilation of expert input and review of over 7,000 individuals and groups. The targeted priority areas expand and revise the 1990 objects.

"In addition, the draft objectives are characterized by an increased emphasis on prevention of disability and morbidity, greater attention to improvements in the health status of definable population groups at highest risk of premature death, disease, disability, and

inclusion of more screening interventions to detect asymptomatic diseases and conditions early enough to prevent early death or chronic illness" (PHS pg. 1).

To facilitate evaluation of these objectives, each priority area is organized into five parts:

1) Health status - targets to reduce death, disease, and disability.

2) Risk reduction - targets to reduce the prevalence or incidents of risks to health or to increase behaviors known to reduce such risks.

3) Public awareness - targets to increase public awareness about health risks and/or appropriate preventive interventions.

4) Professional education and awareness - targets to increase the numbers of professionals aware of, trained to provide, and in some cases providing appropriate interventions.

5) Services and protection - targets to increase comprehensiveness, accessibility, and/or quality of preventive services and protective interventions.

Of these objectives, professional education and awareness are critical to this study. Each objective attempts to provide baseline data to give a basis for measurement of success in meeting the objective. As has been stated, many of these objectives do not have baseline data at this time. Some examples are:

OBJ 1.18 Increase to at least 50 percent the proportion of primary care providers who provide nutritional counseling and/or

referral to qualified nutritionists and/or dieticians. (Baseline unavailable) pg. 1-20.

ObJ 15.21 Increase to at least 75 percent the proportion of primary care providers who initiate diet and/or drug therapy at levels of blood cholesterol that accord with current treatment recommendations. (Comparable baseline date unavailable) pg. 15-5.

OBJ 17.18 Increase to at least 50 percent the proportion of primary care providers who receive periodic training or continuing medical education in current concepts of diabetes care and management. (Baseline data unavailable) pg. 17-6

OBJ 19.15 Increase to at least 50 percent the proportion of people age 18 and older who are questioned routinely by primary care providers about their mental and emotional health, including sources of stress and coping skills. (Baseline data unavailable) pg. 19-5.

Some objectives do have at least some baseline data:

OBJ 3.8 Increase to at least 75 percent the proportion of all primary care providers who routinely advise cessation of smoking and provide assistance and follow-up for all of their tobacco using patients. (Baseline: About 52 percent of internists reported counseling more than 75 percent of their patients about smoking cessation in 1986) pg. 3-4.

This study will attempt to examine how advanced practice nurses evaluate perimenopausal women for risk factors related to cardiovascular disease. A physician group in Genesee, Lapeer, and Shiawassee counties are also included to describe local practice patterns. It is hoped that this study will begin to provide some "baseline data" by which to evaluate the objectives of the nation.

Summary of the Available Literature

In summary, the literature pertaining to this study is quite varied in relation to whether perimenopausal women are being screening for cardiovascular risk factors.

As has been shown, documentation exists in relation to what a perimenopausal state is. There are numerous reasons for screening. Risk factors for cardiovascular disease are fairly well documented. One of the inherent difficulties for the Primary Care Clinician can be deduced from the exhaustive amount of literature found regarding risk factors and screening practices. What is clinically responsible? For the purposes of this study, the recommendations of the United States Preventive Services Task Force as well as the previously reviewed literature in relation to screening for cardiovascular disease will be used to identify whether perimenopausal women are being screened.

CHAPTER IV

METHODOLOGY AND PROCEDURE

Overview

This chapter presents the research design and methods used to guide the study. The data collection procedure, operational definitions, scoring, reliability and validity, analysis of data, and protection of human rights are described.

This descriptive study examined the extent to which primary care providers assess perimenopausal women in relation to the woman's cardiovascular risk profile during the routine health maintenance visit. Criteria for screening practices were ascertained through a review of the literature and the use of the "Guide to Preventive Services" (PHS 1989). The goal of this study was to describe the practice patterns of advanced practice nurses across the State of Michigan, as well as, medical doctors in the Tri-county area of Genesee, Lapeer, and Shiawassee counties. Although the research questions relate to primary care providers, the decision was made to report responses as separate groups; and, if possible, identify any differences and similarities between the groups.

The Survey

A self-administered survey was developed for this study which included forced-choice, closed-ended, and an open-ended item. Before developing the initial questionnaire, recommendations from the Guide to Preventive Services, (PHS 1989) and the literature were synthesized. Questions were developed from observation of actual practice. Thus, the questions for the survey consisted of two groups of factors; those that are supported by the literature, and those that are not supported by the literature but may be used in practice. Finally, the open-ended question was utilized to provide a richer description of actual practice. These questions were designed to answer the overall questions addressed in this study: Do primary care providers perform a risk assessment with perimenopausal women (ages 40-55) for cardiovascular risk factors during the routine health maintenance visit? What are the factors assessed?

OPERATIONAL DEFINITIONS

Screening for cardiovascular risk is operationalized by specific questions on the instrument (Appendix B). These operational definitions of the individual risk factors supported by the literature were identified by specific questions as follows:

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Supported Factor: Family History of Cardiovascular Disease

The question: "When a perimenopausal woman (ages 40-55) presents to your office for a routine health maintenance visit do you or your staff routinely inquire as to the cause of death of family members?" represents the family history risk factor. A positive response on question 2 indicated that the participant routinely asked about family history.

Supported Factor: Diabetes Mellitus

Two questions relate to screening for diabetes. These include:

1) When a perimenopausal woman (ages 40-55) presents to your office for a routine health maintenance visit do you or your staff routinely weigh the patient? (question 1)

2) When a perimenopausal woman (ages 40-55) presents to your office for a routine health maintenance visit do you or your staff routinely order a fasting glucose? (question 11)

Affirmative answers on these questions indicate that screening is being done.

Supported Factor: Smoking

Screening for smoking is indicated by an affirmative answer related to obtaining a smoking history. This is represented on the survey as question 3.

Supported Factor: Hypertension

Question 4 related to measurement of blood pressure. An affirmative answer to this question indicated screening has occurred.

Supported Factor: Obesity

The question: "When a perimenopausal woman (ages 40-55) presents to your office for a routine health maintenance visit do you or your staff routinely weigh the patient?" represented the variable of obesity. Affirmative answers to this question indicated that this screening has been done.

Supported Factor: Sedentary Life Style

Question 7 related to exercise. A positive answer indicated that the participant routinely screens perimenopausal women for a sedentary life style.

Supported Factor: Stress

Screening for stress and reactions to stress was represented by 2 questions. The first question (7) asked about whether or not the participant routinely asked about major life changes. The second question asked if the clinician investigated the woman's attitude toward change (8). Affirmative answers on these questions indicate screening for stress.

Supported Factor: Cholesterol Levels

Question 14 related to whether or not the clinician orders a serum cholesterol. An affirmative answer indicated screening for this risk factor.

Non-Supported Factors:

Several other questions were asked to investigate what other factors a clinician may use to screen a perimenopausal woman for cardiovascular disease.

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Although these factors may not be supported by the literature, clinicians may use them due to convenience or economic reasons. Affirmative answers on these questions (5, 9, 12, 13, 15, and 16) was listed as being done, but is not recognized as a screening factor supported by the literature. The open-ended question was also used for the purpose of providing a richer description of actual practice.

Fundoscopic Exam:

May be used to look for vascular changes suggestive of hypertension, and diabetes mellitus.

Electrocardiogram:

May be used for looking for ventricular size secondary to chronic hypertension, and patient expectation.

Random Glucose:

May be used for screening for diabetes mellitus due to availability of the patient, i.e., fear that the patient may not return for fasting work.

Post-Prandial Glucose:

May be used for screening for diabetes mellitus so that the patient would not have to return for fasting work.

Triglycerides and HDL/LDL Levels:

May be used to screen for hypercholesterolemia for economic reasons, i.e., may be economical to perform "batch" testing, rather than individual tests.

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Pilot Study

A pilot study was conducted utilizing 5 members of the potential study group. A Clinical Specialist in Cardiovascular Nursing was also utilized for her expertise in relation to cardiovascular risk factors. Each pilot study participant was personally contacted and requested to fill out the pilot survey (see Appendix A for survey). The respondent was also asked to evaluate length of time required to complete the survey, use of color for the survey, construction, and content. These respondents did not participate in the full-scale study.

After the pilot study was completed, the questionnaire was revised to incorporate suggestions and comments obtained. Changes to the survey included wording, clarification of questions, minor changes in the cover letter, and demographic section of the survey. The paper on which the survey was printed was light lavender, and all agreed that this facilitates identification of the survey on a busy clinician's desk.

The cover letter was revised to include a section that allowed the participant to request results of the study. The nurses letter was changed to request demographic data on nurses who do not participate in the care of perimenopausal women. The open-ended question pertaining to other factors (those not supported by the literature) clinicians may use to assess perimenopausal women was focused to cardiovascular risk factor assessment. The last question relating to number of perimenopausal women seen in the office was changed to specify "for routine health maintenance."

The final draft of the survey was completed after approval from members of the thesis committee. The study was then implemented.

Population

The population utilized in this study consisted of certified nurse practitioners in the State of Michigan, and medical doctors, specializing in internal medicine, family practice and obstetrics/ gynecology in Genesee, Lapeer, and Shiawassee counties (n=577). The nurses in the study were selected from lists of certified nurse practitioners obtained from the Michigan Nurses Association and the State Board of Nursing for Michigan. The listings from these agencies only identified that the nurses are in advanced practice. The area of specialty was not available. Therefore, all certified nurse practitioners were considered potential participants and sent the cover letter and survey (n=381).

The physicians were selected from the 1989 telephone directories specific to the county. Directory listing by specialty was used to develop the mailing list (n=196). The physicians were then sent cover letters and the survey. Family practice and internal medicine physicians are considered primary care providers. Obstetrician/ gynecologists were utilized because women frequently use them as primary care providers.

The intent in selecting this population was to facilitate identification of practice patterns by nurses in the state, however, since the (n) could not be accurately predicted, the physician group was

selected to allow identification of practice patterns in the researcher's geographic location.

Self-selection bias exists in this study. Nurses were specifically asked to self-select by filling out the demographic section of the survey only if their practice did not include perimenopausal women. Another element of self-selection may be present in the study. Physicians and nurses that responded may have an active interest in cardiovascular disease, and may not reflect the true practice of the population.

Reliability and Validity of the Instrument

The validity of an instrument was defined by Polit and Hungler (1987) as the "degree to which an instrument measures what it is supposed to be measuring" (p. 323). In this study, content validity is the most important since the design of the survey was to describe knowledge in a specific content area; cardiovascular risk factors.

Content validity was concerned with the sampling adequacy of the content area being measured (Polit and Hungler, 1987). Since there are no objective methods for measuring content validity (Polit and Hungler, 1987), content validity would therefore need to be judged by examining the methods used to develop the questions used in the survey. In this study, experts in the content area, as well as, clinicians in everyday practice were asked to identify whether or not the items on the survey adequately addressed the issues. The development of the questions were

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based on a thorough literature review and validated by the panel of experts.

Face validity is concerned with whether or not an instrument looks like it is measuring what it purports to measure. To study professionals, this is important to obtain participant cooperation. The survey was designed based in practice guidelines and practical experience, and pilot tested to assure credibility.

The reliability of an instrument is the degree of consistency with which is measures the attribute it is supposed to be measuring (Polit and Hungler, 1987, pg. 316). The KR-20 for the 10 screening behaviors supported by the literature was .56. All practitioners assessed smoking, blood pressure, and weight, causing no variability due to the dichotomous choices (yes or no). Variability could have been increased by the use of a Likert-type scale.

Data Collection

The survey data in this study was obtained using both forced-choice, close-ended questions, and an open-ended question. The purpose of the forced-choice was to encourage the participant to make a decision regarding her/his "routine" practice. The open-ended question was used to provide a richer, more descriptive base from which to describe practice and facilitate development of issues not addressed by the closed-ended questions.

Several techniques were utilized to decrease errors related to instrument format. These included use of a color for the instrument

that would not be commonly encountered in the participants usual practice, i.e., emergency room reports, lab results, history forms, etc. Most questions were close-ended. The open-ended question was used for descriptive purposes only.

The survey, cover letter, (printed on light lavender paper) and a self-addressed, stamped envelope were mailed to the potential participants. One week later, a reminder note, written on the same light lavender paper, was mailed to all potential participants.

When received, completed surveys were then separated according to the sub-section of the population. Nurses who indicated that they did not participate in the care of perimenopausal women were coded onto a separate predesigned coding sheet. Nurses who cared for perimenopausal women were sorted and coded in the same manner. Responses that indicated the participant was a physician were sorted and coded onto a third predesigned coding sheet. Once all of the questionnaires were sorted and coded, the results were then entered into a personal computer utilizing the IBM Public Domain word processing system.

Data Analysis

Scoring:

Each sub-grouping of the population was coded in a specific fashion and placed in separate files. The first three digits identified the particular questionnaire. The identification codes do not represent a particular provider.

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Screening factors that are supported by the literature (supported factors) (1, 2, 3, 4, 6, 7, 8, 10, 11, 14) were given nominal values of 1 if answered affirmatively, 3 if answered negatively. Factors not supported by this literature (non-supported) factors (5, 9, 12, 13, 15, 16) were given a nominal value of 2. The function of separating the non-supported and supported factors was to facilitate the identification of other screening factors that may be used in the description of practice.

The answers to the open-ended questions were enumerated as designated by the respondent. For example, if a respondent wrote in CBC, then CBC was given a nominal value of 1 every time it appeared on a survey. If a respondent wrote stress-test, then stress-test was given a value of 2 each time stress-test appeared on a survey. No attempt was made by the researcher to interpret the written comments.

Demographic data was coded utilizing a nominal value system appropriate to the particular sub-group. For example, nurses who provide care for perimenopausal women filled out the demographic data and was so recorded (NR1). The nurses who do not provide care for perimenopausal women were coded in a similar fashion and placed in the category (NR2). The physician grouping was coded again utilizing nominal values to represent demographic information.

Analysis of Data:

Several statistical techniques were used to analyze the data: frequency distributions, means, standard deviations, chi-squares, variances, a pooled T-test, and percentages. Statistical procedures

used on the demographic data included frequency distributions, percentages and means.

The focus of this study was to describe what factors primary care providers used to screen perimenopausal women for cardiovascular disease. And, since this study describes actual practice, versus idealized conditions necessary for research, it is predicted that there will be a discrepancy between the primary care providers use of the supported factors and non-supported factors. For this reason, use of 50% of supported factors is considered screening for cardiovascular disease.

Protection of Human Rights

The rights of the respondents were protected in several ways:

1) Adherence to the established standard criteria developed by the University Committee on Research Involving the Use of Human Subjects (UCRIHS). Approval of the human rights protection procedures was granted by UCRIHS on 02 March 1990.

2) Anonymity for the subjects was guaranteed by the lack of identifying features on the survey. The lack of identifying data forced the researcher to mail the reminders to all potential participants.

3) A brief explanation of the research study and objective, voluntary participation, time involved in participation, instructions, and assurances of anonymity were provided in the cover letter.

4) Those participants interested in results were asked to send the request portion of the cover letter under a separate cover.

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Methodological Limitations of the Study

In addition to the limitations acknowledged in Chapter I, the following limitations have been identified which may have affected the results of this study:

1) This study asked clinicians to record their "routine" practice. The professions of nursing and medicine are predicated on judgement. Therefore, the data may not represent practice on an individual basis. That is, not all women may be screened in the manner described because of certain historical details. For example, if a woman provides a family history of cardiovascular disease in all first degree relatives, screening may be more rigorous than screening done with a woman without a strong family history of cardiovascular disease.

2) The study provides for self-report of "routine" practice. Variation between perceived and actual practice may have occurred.

3) Empirical evidence of screening behaviors would necessitate randomization of the population, possible chart audit, and standardization of laboratory procedures related to charges. Patients would have to present for only "routine health maintenance" and not for any other problems. Thus, this study is merely descriptive and no absolute conclusions may be drawn.

4) Responses to the open-ended questions were tabulated as the information was received. Further investigation to these screening parameters, i.e., why used, was not available to the researcher.

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5) A disadvantage of utilization of a mailed survey for the study was in an inability to clarify questions on the part of the researcher and the participant.

6) Self-selection of the nursing population occurred in regards to their practice. Conceivably, only those respondents (both nurses and physicians) with an interest in cardiovascular disease may have responded.

7) Separation of the population into three separate data files resulted in difficulty in data handling. Consequently, many of the statistical tests had to be performed by hand.

8) Use of a convenience population resulted in a small sample size that failed to demonstrate significant differences within and between groups.

Summary

The research design has been described. The data gained by this study will facilitate the development of standards of practice for primary care providers in relation to the assessment of cardiovascular risk factors in perimenopausal women. Based on the quality of information obtained, this study may serve as a partial basis for evaluation of the Year 2000 Health Objectives for the Nation (PHS, 1989).

The data gained also will help the growth process for the advanced practice nurse. The first step to assessment is gathering the baseline

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data. The next step, not addressed in this study, should be to explain the underlying causes for provider deficits in screening.

Results will be presented in Chapter V, followed by implications of the study results and recommendations for further research as proposed in Chapter VI.

CHAPTER V

Overview

The purpose of this study was to examine the extent to which primary care providers screen perimenopausal women for cardiovascular risk factors. In this chapter, data which describe the study populations and address the research question are presented. Additional descriptive data, although not directly related to the study variables, are presented to broaden the description of the sample. Data pertaining to the research questions: **Do Primary Care Providers Perform A Risk Assessment With Perimenopausal Women (ages 40-55) During The Routine Health Maintenance Visit, and What Are the Factors Addressed?**, are presented and the results described.

The statistical techniques used to analyze the data included frequencies, means, standard deviations, a pooled T-test, variances, and percentages. The data are presented as follows: first, descriptive data related to the sample of nurses providing care for perimenopausal women and second, descriptive data for the physician group. The final data presentation will be a description of practice outlined by the participants.

Of the 577 surveys, the overall return rate for the survey was 52.3%. The return rate, for all nurses was 60% (n=228), and the physician return rate was 39% (n=76). Of the 304 surveys received, 163 (54%) were from primary care providers who participate in the care of perimenopausal women. Of these 163, 93 were from nurses and 70 were from physicians. The data from the 93 nurse surveys and the 70 physician surveys were used to answer the research question.

Descriptive Findings of the Study

Sociodemographic Variables of the Study Population: A discussion of the sociodemographic variables will be limited to the populations that provide care for perimenopausal women. The nurses who provide care for perimenopausal women in their practice reported a mean age of 43.38 years, with a range from 27 to 65 years, and tended to be clustered in large metropolitan counties such as Wayne (14.4%), Washtenaw (15,6%), Kent (10%), and Ingham (8.9%). The majority of the nurses had Master's Degrees (46.6%), and functioned in settings other than private practice (62.4%), such as clinics, university settings, and hospitals. The nurses were primarily female (96.8%), and primarily specialized in Obstetrics/Gynecology (31.5%), Family Practice (23.9%), Maternal/Child (14.1%), or Adult Nursing (15.2%). The nurses tended to be experienced in practice, with 11.9 mean years of practice. Characteristics of this population are consistent with those reported by Talaczyk (1988). Sixty three percent of the nurses reported seeing 10-30 perimenopausal women per week for routine health maintenance. A small percent (23.1%)

reported seeing less than 10 women per week, and an even smaller percent (12.3%) reported more than 31 per week.

Sociodemographic characteristics of the physician population are quite different from those of the nurses. The mean age of the physicians was 51.43 with a range of 30 to 67. The respondents were primarily male (94.3%) 21.24 mean years in practice. The educational level of the physicians was homogeneous; all were Medical Doctors. The geographic location of practice for the physicians was Genesee, Lapeer, and Shiawassee counties. The majority of respondents (57.1%) reported Family Practice as their specialty, followed by Internists (20%) and Obstetricians/Gynecologists (10%). The majority of physicians (70.6%) indicated that they saw 10-30 perimenopausal women in their office per week for routine health maintenance, while 4% saw fewer than 10, and 19.1% see 31-51 women, and 6% saw more than 52 perimenopausal women for routine health maintenance per week.

Data Presentation For Research Question

A description of practice in relation to cardiovascular risk assessment was obtained from the population studied. Description of practice supported by the literature was obtained by affirmative responses on 10 key questions. Findings will be organized around the research questions. The data pertaining to advanced practice nurses in the State of Michigan will be presented first, followed by the physician data for Genesee, Lapeer, and Shiawassee counties.

Nursing Data:

Question: Do Primary Care Providers perform a risk assessment with perimenopausal women (ages 40-55) for cardiovascular risk factors during the routine health maintenance visit?

The nurse respondents reported screening a mean of 7.5 risk factors out of a possible 10, with a range of 4 to 10. The standard deviation was 1.65. Thus "risk assessment for cardiovascular risk factors" is being done since this met the criteria established of 50% of screening behaviors.

Table 1. Summary of Screening Behaviors of Advanced Practice Nurses for Supported Factors.

VARIABLE	FREQUENCY	PERCENT
WEIGHT (Obesity) (Diabetes)	89	96
FAMILY HISTORY OF CARDIOVASCULAR DISEASE	86	92
HISTORY OF SMOKING	93	100
BLOOD PRESSURE (Hypertension)	93	100
EXERCISE HISTORY (Sedentary life style)	59	63
LIFE CHANGES (Stress)	71	76
ATTITUDES TOWARD CHANGES (Stress)	43	46
DIET HISTORY (Diet risk)	58	62
FASTING BLOOD GLUCOSE (Diabetes)	36	39
SERUM CHOLESTEROL (Hypercholesterolemia)	76	82
MISSING	31	3

Note: Data were considered missing if respondent wrote in "maybe" or "sometimes" on their survey.

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Question: What are the factors assessed? This was answered by a combination of supported factors (Table 1) and non-supported factors (Table 2). Non-supported factors used in screening are those that may be used, however, are not supported by the literature. The non-supported techniques were represented by questions in the survey as outlined in Chapter IV. Affirmative answers to the closed-ended questions indicated that respondents used that factor, negative responses indicate that they do not use that particular factor. The open-ended question also provided data on other factors used for screening.

A high percentage of these nurses used triglycerides (57%) and high density lipoproteins (53.3%) to screen perimenopausal women for cardiovascular disease. Table 2 illustrates non-supported factors that may be used by these nurses in assessment of perimenopausal women for cardiovascular risk.

Table 2. Summary of Screening Behaviors of Advanced Practice Nurses for NON-Supported Factors.

VARIABLE	*RESPONSES	*PERCENTAGE
CBC **	1	1
STRESS TEST **	1	1
CHEST X-RAY **	1	1
HEMOCULT **	3	3
ESTRADIOL LEVELS **	1	1
HX OF ORAL CONTRACEPTIVE USE **	4	4
FUNDUSCOPIC EXAM	32	35
EKG	12	13
RANDOM GLUCOSE	17	20
POST PRANDIAL GLUCOSE	8	9
TRIGLYCERIDES	52	57
HIGH DENSITY LIPOPROTIENS	49	53

* Percentages vary due to missing responses and multiple choice of factors.
** Indicates factors identified by respondents by open-ended questions.

Physician Data:

The next section presents the physician's responses to the question: "Do primary care providers perform a risk assessment with perimenopausal women (ages 40-55) for cardiovascular risk factors during the routine health maintenance visit?"

The mean number of risk factors assessed during the routine health maintenance visit by physicians was 7.7, with a range of 3 to 10. The standard deviation was 1.73. Thus, screening for cardiovascular risk is being performed since the established criteria was 50%.

Table 3: Summary of Screening Behaviors of Physicians for Supported Factors.

VARIABLE	FREQUENCY	*PERCENTAGE
WEIGHT (Obesity) (Diabetes)	70	100.0
FAMILY HISTORY OF CARDIOVASCULAR DISEASE	66	94
HISTORY OF SMOKING	69	99
BLOOD PRESSURE (Hypertension)	68	97
EXERCISE HISTORY (Sedentary life style)	37	53
LIFE CHANGES (Stress)	55	79
ATTITUDES TOWARD CHANGES (Stress)	32	46
DIET HISTORY (Diet risk)	46	66
FASTING BLOOD GLUCOSE (Diabetes)	37	53
SERUM CHOLESTEROL (Hypercholesterolemia)	62	89
MISSING	61	9

Note: Data were considered missing if respondents wrote in "maybe" or "sometimes" on their survey.

Question: The second research question asked: What are the factors assessed? The question is answered by a combination of supported factors (Table 3), and non-supported factors (Table 4). Non-supported factors used in screening are those that may be used, however, are not supported by the literature. The non-supported techniques were

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represented by closed-ended questions in the survey. Affirmative answers to the closed-ended question indicated that respondents use that factor, negative responses indicate that they do not use that particular factor. The open-ended question also was used to describe other non-supported factors.

A high percentage of the physician population also used triglyceride levels and high density lipoproteins in screening perimenopausal women. Over 50% of the physicians also used fundoscopic exam and an electrocardiogram. Table 4 illustrates non-supported factors that may be used by physicians in assessment of perimenopausal women for cardiovascular risk.

Table 4. Summary of Screening Behaviors of Physicians for Non-Supported Factors.

VARIABLE	NUMBER OF RESPONSES*	PERCENTAGE*
CBC **	1	1
CHEM PROFILE **	4	6
CHEST X-RAY **	3	4
T4 **	1	1
ESTRODIAL LEVELS **	1	1
FUNDUSCOPIC EXAM	38	58
EKG	35	54
RANDOM GLUCOSE	23	38
POST PRANDIAL GLUCOSE	13	22
TRIGLYCERIDES	57	85
HIGH DENSITY LIPOPROTEINS	51	76

* Percentages vary due to missing responses and multiple choice of parameters.
** Indicates factors identified by respondents by open-ended questions.

Discussion:

Although comparison of two highly different populations is questionable, a pooled T-test was done to attempt to determine if there

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is a statistically significant difference in the mean response (supported factors) of the 2 groups (nurses and physicians), and minimal differences in the variances of numbers of screening factors performed. Another rationale for looking at a difference between the populations was related to relatively close sizes (n=70, n=93). The T value was not significant at the 0.5 level indicating no differences in the population.

Summary of Findings

In summary, the research questions: "Do Primary Care Providers perform a risk assessment with perimenopausal women (ages 40-55) for cardiovascular risk factors during the routine maintenance visit? What are the factors assessed?" were answered affirmatively in relation to both populations. Mean screening factors assessed by advanced practice nurses and physicians were 7.5 and 7.7 respectively. T-test performed on the two populations revealed no differences between these groups on screening behavior.

The second question "What are the factors assessed?" was answered by both the supported and non-supported factors. Further discussion will be presented in Chapter VI, along with interpretation of the findings, implications for nursing practice, nursing education, and future research.

CHAPTER VI

SUMMARY, INTERPRETATIONS, AND RECOMMENDATIONS

Overview

A summary and interpretation of the findings for the study are presented in Chapter VI. This summary and interpretation includes a discussion of the sociodemographic variables in the study and how they may have impacted the outcome of the study. Findings of the research question are discussed related to the literature and the framework.

Review of Previous Chapters

Cardiovascular disease (CVD) is the most common cause of death in both men and women in the United States (National Center for Health Statistics, 1986). In 1983, heart disease was the third leading cause of death in women 35-39, second leading cause of death in women between ages 40-44, and the leading cause of death in women 65 years and older (Thom, 1986).

Risk factors known to contribute to the development of cardiovascular disease have been developed through extensive studies

utilizing male subjects. The results have been extrapolated to include women.

Perimenopausal women are the topic of choice for this study as this time of life is one of change, zest, and growth, McKeon (1988), Sandelowski (1981). Screening a woman who is in the age range of 40-55 allows time for behavior changes that will decrease her risk of experiencing a catastrophic cardiovascular event.

Research in cardiovascular risk assessment is varied, confusing, and extensive. Multiple recommendations have come from a variety of sources as outlined in Chapter III. The most concise guide for the practitioner is the Guide to Clinical Preventive Services set forth by the U.S. Preventive Services Task Force (19889). The drawback of the guide is the paucity of information related to psychosocial risk factors for cardiovascular disease.

Evaluation of the guide, as well as, the Year 2000 Health Objectives for the Nation is thwarted by a lack of description of actual practice. As has been show, there are several studies to indicate what should be done, however, there is a paucity of information describing what is actually done by clinicians in relation to screening perimenopausal women for cardiovascular disease.

The goal of this study was to provide a description of practice patterns of Advanced Practice Nurses and a small number of physicians in relation to their "routine" practice for evaluating women for cardiovascular disease. This study was purely descriptive research and thus was not intended to explain why certain parameters are or are not used for screening purposes. The predicted number of screening

parameters was 50%, however, the actual number as described by this population of primary care providers was 75%.

Summary and Interpretation of Findings

Sociodemographic Characteristics of the Study Population: The sociodemographic variables of the health care providers who responded to the survey may have affected the outcome. The nurse population tended to be clustered in large metropolitan areas of Michigan. These metropolitan areas tend to have the major universities for the state. Therefore, the actual practice for advanced practice nurses in the state may be skewed due to "progressiveness", or access to information that provides guides for screening. The nurses were primarily female, and the physicians, primarily male. Thus, one might expect, from a feminist perspective, that the nurses may be screening women more closely than the predominately male physician population. This was not found to be true as mean screening behaviors were comparable for both physicians and nurses.

Research Question:

In this study, 10 specific variables were used to indicate screening behaviors that represent risk factors for cardiovascular disease. The risk factors were developed from a thorough literature review, and operationalized by specific questions on the survey. Affirmative answers to the specific questions were deemed "screening" behaviors.

Nurse Data:

The mean number of screening behaviors performed by the nurses was 7.5. The supported screening factors reported by greater than 50% of advanced practice nurses include weight, family history of cardiovascular disease, smoking, blood pressure, exercise history, life changes, diet history and serum cholesterol. Factors not supported by the literature but used by the advanced practice nurses include triglycerides, and high density lipoprotein levels. Non-supported factors used by less than 50% of the advanced practice nurses included: CBC, stress test, chest x-ray, hemocult, estradiol levels, history of contraceptive use, funduscopic exam, ekg, random and post-prandial glucose levels. Although the efficacy of these non-supported factors has not been demonstrated in the literature, further research may indicate that these factors should be looked at when screening perimenopausal women for cardiovascular disease.

The relatively low number of respondents that reported using fasting glucose levels may be related to the fact that many of the nurses are not in a private practice setting, and fasting glucose levels would require a revisit by the patient.

The most important finding of this study was the lack of screening for psychosocial issues. The Guide to Preventive Services (1989) also does not include this as an issue in screening. As has been shown in Chapter III, issues such as stress, changing life events, and reactions to these changes are very difficult to quantify and evaluate. This area is also controversial, and the research has been mixed as to the relationship of these factors and cardiovascular disease. Quick and

efficient methods of evaluation of these factors do not exist. Therefore, the clinician may avoid such issues due to time and economic restraints.

It is reasonable to assume that HDL/Triglyceride levels are drawn along with serum cholesterol levels due to many times "batch" testing is more economical than individual tests (this may vary from laboratory to laboratory).

Electrocardiograms are clearly not indicated for screening. The function of the EKG is diagnostic and for use in symptomatic patients. However, patient expectation may cause the clinician to perform this test.

In summary, the construct of cardiovascular risk assessment in perimenopausal women as outlined by the literature was upheld in this study. The areas where screening was weakest was psychosocial issues and fasting glucose levels. Clinicians may well use other "non-supported" factors to look at the woman's risk profile due to time constraints, access issues such as return visits, settings in which they practice, the access to current knowledge, and knowledge about intervening to change recalcitrant behaviors (smoking, eating, stress related life style) once assessed.

This study did not address what interventions were undertaken as a result of screening, and it is important that providers recognize that screening alone will not reduce the risk profile.

Physician Group:

The mean number of screening factors assessed by the physicians was 7.7. The supported factors reported by greater than 50% of the physicians include: weight, family history of cardiovascular disease, history of smoking, blood pressure, exercise, life changes, diet history, fasting glucose levels, and serum cholesterol. Attitudes toward changes in life was the least commonly used factor. The non-supported factors used most frequently included triglycerides, high density lipoproteins, funduscopic exam, and ekg. The non-supported factors used by less than 50% included random and post-prandial glucose levels, CBC, chemistry profile, chest x-ray, T4 levels, and estradiol levels.

Once again, psychosocial issues seem to not enter into the risk profile as expressed by the physician group. The lack of screening for psychosocial issues is comparable to the nurses. Possible explanations for this include a lack of time in the office setting, lack of quick and efficient methods for assessment, and lack of knowledge of how to effectively intervene in such issues.

Although the fasting glucose level is the screening tool most commonly referred to in the literature, it is conceivable that the physician group uses the random and post-prandial glucose levels because of the fear that the patient may not return for this evaluation.

In summary, the physician and nurse population utilized in this study do screen perimenopausal women for cardiovascular risk factors, and tend to use a variety of factors, not just those supported by the literature. The lack of screening for psychosocial issues is

disturbing, but not surprising due to a lack of efficient means for assessing this factor.

Limitations of the Study

In addition to the limitations acknowledged in Chapter I and IV, the following limitations have been identified which may have affected the results of this study:

1) A major disadvantage of using the forced choice format was reduction of the reliability of the questionnaire. This made the risk assessment profile less reliable.

2) Reasons for choice of specific factors to use for screening were not identified in this study.

3) The issue of what is done with data obtained by screening is not addressed. Providers may do an excellent job screening, but not do anything to facilitate changing the "risky" behaviors.

In summary, the limitations discussed in this and previous sections describe those factors that need to be considered when developing a methodology for future research and may also influence how results can be interpreted.

Implications for Nursing

In this section, the implications of this study for nursing practice, nursing education, and future nursing research will be

presented. These implications will be discussed within the conceptual framework designed for this study (see Figure 1, pg. 19).

Implications for Nursing Practice:

Nursing is described as both a science and an art, and nursing's descriptive component (assessment) provides the basis for nursing practice. Nursing does not have dependent functions, only collaborative ones. Thus, this study is a result of collaborative consultation between the researcher and nurses, and between the researcher and physicians. Each participant has their own rationale for selection of specific screening behaviors, and the function of the study was to describe which screening factors were selected. Perimenopausal women were selected as a topic for screening for cardiovascular risk factors because research has shown that these women are prime targets for what Roger's defines as repatterning McKeon (1988). A concern of the researcher is that providers are tending to ignore an important portion of the perimenopausal women's environment. Since the perimenopausal woman is seen as being inseparate from her internal and external environment, psychosocial issues cannot be overlooked. Consequently, the model collapses in relation to the perimenopausal woman. Although we can only speculate reasons for the lack of investigation into these issues, nurses are consistent with the particular physician group in this study. Nursing and medical literature has not demonstrated what screening parameters are being utilized. Therefore, it is possible that physicians and nurses in a collaborative primary care setting may work

with each other to identify screening protocols for their particular practice.

The focus of the study was to facilitate the process of growth for perimenopausal women and nursing. The result of the study provides direction for repatterning of nursing practice that will facilitate the growth process for perimenopausal women. How this may occur will be presented in terms of education, policy issues, practice issues and further research.

The Clinical Nurse Specialist (CNS) can facilitate this process of "becoming" for perimenopausal women. Selection of one of the multiple roles of the CNS is based on the assessment data gleaned in the interview. It is important for the CNS to realize that the patient is at a particular point in space time. The patient reaction to the assessment process will change in response to the various roles of the CNS. Therefore, if the CNS is not sensitive to the issues brought forth by the patient, the nursing role is ineffective.

Figure 2 provides a summary of the relationship of the model to the study. The role of assessor, combined knowledge of the cardiovascular risk profile and how other providers screen for these risk factors provides the basis for the clinical interview. How the patient responds to the screening dictates the nurse's selection of the proper role to facilitate the process of becoming (or growth) for the perimenopausal women.

(See Figure 2 on following page)

Cardiovascular disease and women are in the mass media. The general population is concerned about issues such as cholesterol, blood pressure, and exercise. This interest has spawned several "quick fixes" such as "oat bran", health equipment, automated blood pressure equipment, the "perfect" athletic shoe, etc. One of nursing's functions is education. Nursing must invest in the education of women to help the women to make wise, informed choices about how to manage change in their lifestyle. Nurses must educate women as to what the "right choices" are in relation to cardiovascular risk. Although the temptation to indulge in such "quick fixes" is real, issues such as weight reduction, smoking cessation, stress reduction, exercise, and management of multiple roles must be addressed by the CNS. These life style changes are difficult to achieve, especially since the present health care system places more emphasis on diagnosis and pharmacological treatment of disease than on wellness issues.

Professional education programs are being presented. Life Time Medical Television presents programs at least monthly regarding the impact of cardiovascular disease and women. Nursing must provide input to these programs. As indirectly shown in the Guide to Preventive Services, until recently, medicine has not been trained in issues of behavior change and counseling. Behavior change and education have been the responsibility of nursing. Not only must nursing educate the public, nursing must also help educate physicians about how to facilitate behavior change and focus on wellness instead of disease.

The Clinical Nurse Specialist must play a role in policy making decisions regarding screening practices. Reimbursement for this

activity is severely limited. The reasons for the lack of reimbursement are multiple. This study functions as a "pilot" study in identifying what types of screening are being performed in actual practice. This is the basis for determining efficacy of screening behavior. Nursing can, and should continue to evaluate screening behavior, whether it be cardiovascular disease, cervical cancer, breast cancer, respiratory disease, substance abuse, mental health issues, etc. The CNS can, and does provide a large data base from her practice. Defining efficacy of screening behaviors is a first step in the intervention process. Methods of intervention and documentation of the efficacy of these methods will help provide documentation for reimbursement.

Policy issues such as prevention of "scam cures" for disease are within the realm of nursing. Nursing advocacy facilitates the development of informed consumers, which then results in improvement in the level of health care. Nursing research will provide insight to the consumer as to what are safe health practices. Nursing research will also provide information for health policy makers by identification of standards of practice (in relation to assessment) should be utilized and which interventions are most effective in reducing cardiovascular risk.

Nursing is a profession practiced by primarily women. Women's issues are nursing issues. Nursing professionals must recognize that their behaviors impact on policies related to women. Activism, advocacy, recognition of environmental issues (as defined by Rogers), will all have a positive impact on women. Social issues such as multiple roles and child care must be investigated by nursing. These changes, and the reactions to these changes can cause disruption in the

woman's internal and external environments. Nursing must be on the forefront of evaluating or assessing the impacts of these changes on women.

Nursing must be instrumental in development of a mechanism whereby issues such as stress, hostility, and life change issues can be assessed quickly and efficiently in the primary care setting. Perhaps, a questionnaire that is filled out prior to the health maintenance visit may help in decreasing time and increasing screening behaviors. This form may be filled out in the waiting room, or mailed to the patient prior to the visit. Some women's health care clinics are currently using such forms, however, literature is not currently available as to the effectiveness of such methods in relation to screening for cardiovascular disease. Because the woman provides the information, doesn't mean that the provider acknowledges or intervenes. The provider must, once again, utilize the information to intervene appropriately.

Just as important as filling out forms, or performing the initial assessment is the development of a relationship that provides continuity, as well as, following the patient along points in time versus one visit per year. As show in the model, one health maintenance visit is only one point in time. Mechanisms that are cost effective, efficient, acceptable to the patient in relation to her environment may include follow up telephone calls, a letter three to six months after the visit or provision of "group meetings" covering topics known to be of interest to the particular patient. Nurses must be educated that health outcomes are the responsibility of health care. Screening

behavior does not cause or facilitate behavior change. Specific strategizing on the part of the nurse and patient creates outcomes.

In summary, this study has multiple implications for nurses. These range from role implementation to social policy issues, and practice issues. Nursing must continue to evaluate practice patterns. Nursing must continue to educate, not only the public, but ourselves, and our colleagues in medicine in relation to the nursing role. Nursing must recognize that women's issues are nursing issues, and vice versa. Utilizing Rogers basic premise that change in the individual energy fields will cause change in environmental energy fields, and that no human is less than the sum of her/his parts will help in developing cost efficient, efficacious, compassionate care.

Perimenopausal women benefit from multidisciplinary functioning, especially in the primary care setting. Interdisciplinary collaborative practice can only come about by interdisciplinary, collaborative education. The quality of care for perimenopausal women is affected by the functioning of the interdisciplinary team. The role of the CNS must be clearly defined for the patient and members of the health team. The CNS role is one of non-medical intervention and focused toward health. That is, if proper screening indicates that presence of disease, appropriate referrals that are beyond the realm of nursing, i.e., thallium stress-testing, angiography, etc., should be made. This is not to say that the patient should be "turned-over" to a physician specialist. The crucial point is the collaborative relationship. The nurse must continue the relationship with the patient to orchestrate continuity of care. Interventions designed with the patient in relation

to smoking cessation, weight reduction, exercise prescription, dietary change, etc., should be continued by the nurse in the primary care setting. Further interventions from the medical aspect must also be incorporated to provide comprehensive care.

Implications for Nursing Education:

Nursing faculty, responsible for the education of graduate nursing students in primary care, must include in the curricula the skills needed for nurses to meet new demands as a result of technology and changes in focus of health care.

The curricula in nursing education must focus on the role modeling and leadership role that a CNS in primary care can play. It is time for nursing to take responsibility for looking at the human as a unified whole, inseparate from her/his surroundings. In this era of cost containment and consumer awareness, there is not room for looking at a patient as an organ system. The Guide to Preventive Services is a good place to start. The Guide presents screening issues across the lifetime of individuals, however, it is not the final document. Psychosocial issues must be included in screening, and all primary care providers must more effectively intervene once screening is done.

The educational preparation of licensed nurses varies, as has been demonstrated by the study population. This confusion, along with lack of specificity of titles creates difficulties for the consumer, as well as, other nurses. The curricula for nurses in primary care should be generic enough to provide a common framework, yet allow specialization to suit demands of the market and the nurse. Since cardiovascular

disease is an issue that begins early in life, screening for potential risk factors should begin early in life. Although this study focused on perimenopausal women, several social and behavioral changes must occur in as young as the pediatric population to continue the decline of cardiovascular deaths in the United States. These changes include proper nutrition, use of exercise as a method of stress reduction, cessation of smoking, and socialization of children to reduce the burden of multiple roles of women.

In summary, nursing education has been discussed in relation to screening perimenopausal women, the CNS role in primary care, and interdisciplinary functioning. Nurses in advanced practice must continue to evaluate their practice. Research relating to actual practice is an excellent tool for development of standards of practice.

Recommendations for Future Research:

Replication of the Study. The survey used in this study is the first step in the development of a more refined instrument for future replication. The following suggestions are more for revision of the questionnaire for future use. See Appendix C when reference is made to specific questions in the questionnaire.

The term "routine health maintenance visit" is a term that caused some difficulty for respondents. It is suggested that a different term such as "routine yearly physical" may be more descriptive, and facilitate the participants' understanding.

The forced-choice option caused considerable difficulty for some respondents. Since nursing and medicine are such judgement based

professions, perhaps an instrument designed to allow for judgement would be more descriptive of actual practice. An example of such an instrument would be case scenarios which present patients with varying levels of risk. The question as to what factors influence a provider chooses a particular screening factor may be addressed in such a study. The difficulty with such a design, however, is that the survey would become much more time consuming, and may thus decrease the return rate.

The question related to life changes and attitudes toward changes were not difficult for the participants in the pilot study. Some negative answers were received, however, the participants had no difficulty interpreting the meaning. A rationale for not asking about these issues may be related to lack of time, energy, and measurable outcomes.

This study also did not ask why or why not in relation to screening behaviors. Thus, reasons for deficiencies can not be defined. Future research should focus not only on describing behaviors, but also, reasons for deficiencies.

The study also did not ask about what interventions were undertaken as a result of screening. Once again, a case study type of survey may provide deeper insight to this question.

Further documentation of practice patterns will help refine the instrument. Reliability of the survey would be enhanced by the use of a Likert type scale to increase the variability, and thus facilitate the development of the construct of cardiovascular risk assessment of perimenopausal women.

The use of a mailed questionnaire has limitations and benefits. The major difficulty, as discussed previously, is the limitation of the interchange between the researcher and the participant. However, this survey was effective in providing a large amount of data precisely because it was short, to the point and did not allow for judgement calls.

The busy clinician has limited time for patient care. A lengthy, difficult to answer questionnaire takes low priority. Personal interview, scheduled as a patient visit, that utilizes a case study can vastly improve this research.

In summary, this study must be replicated. The methods of replication must take into account time and economic factors on the part of not only the researcher, but also, the participant. The instrument must be refined, and use of a decision-based questionnaire must be entertained. Replication and validation of the study will facilitate the evaluation of the Health Objectives for the Nation for the Year 2000.

Future research in relation to perimenopausal women and cardiovascular disease may take multiple avenues. First, investigation as to how stress-related issues add to cardiovascular risk must be defined and tested for efficacy. Issues such as how a decrease in available estrogen affects women in relation to cardiovascular risk needs to be addressed. Are there trade-offs necessary as women grow older? For example, does an increase in body fat have a beneficial effect on the risk profile by increasing estrogen levels? Does hormonal replacement therapy reduce cardiovascular risk in menopausal women?

Other research must focus on demonstrating the efficacy of interventions in relation to screening. Just because providers screen, does this mean that interventions are undertaken to reduce cardiovascular risk? If so, what interventions are undertaken?

Are the non-supported factors identified in this study effective? For example, is utilizing a random or post-prandial glucose just as effective as a fasting glucose in screening for diabetes? Is it important to know whether or not a woman has used oral contraceptives? Does use of oral contraceptive contribute to the development of cardiovascular disease in later life?

These are but a few of the issues needing to be addressed in the area of cardiovascular disease and women. Current research has been focused on men. Issues specifically related to women must be addressed.

Summary

In Chapter VI, a summary and interpretation of findings were presented. Limitations of the study were cited and implications for nursing practice, education, and future research presented. Rogers theory of Unitary Human Beings was used as the conceptual framework for this study and included in the discussion for nursing practice. The findings of the study indicate that providers are performing a cardiovascular risk assessment of perimenopausal women. Providers tend to use a combination of supported and non-supported factors to assess the cardiovascular risk profile. However, psychosocial issues tend not to be included in screening. Further research needs to be undertaken

to: refine the instrument, replicate the study, address issues specific to women such as estrogen levels, long-term effects of oral contraception, and go beyond screening to interventions that assist women to change behavior that leads to cardiovascular disease. Investigations as to why certain factors are selected rather than others need to be undertaken.

Finally, research on changing behavior to decrease the cardiovascular risk profile of perimenopausal women may facilitate a decrease in premature death from cardiovascular events for women.

APPENDIX A

Cover Letters For Nurses and Physicians

14 March 1990

Dear Nursing Colleague.

As a graduate student in the College of Nursing at Michigan State University, I am gathering data for my thesis. My interest is in the assessment of perimenopausal women (ages 40-55) in relation to their cardiovascular risk status. The purpose of this research is to describe practice patterns related to screening perimenopausal women for cardiovascular disease.

The study is of a descriptive nature, and your input is essential to this research. Your name was selected from the list of Certified Nurse Practitioners from MNA and the State Board of Nursing. This listing provides only your address and that you are certified. there is no information on your area of specialty. Therefore, if you do not care for perimenopausal women in your practice, thank you for taking the time to read thus far. Please proceed to the end of the questionnaire and fill out section II. If you do care for perimenopausal women, please be assured that there is no risk to you by participating in this study. The only identifying features included in this study are the questions related to demographic data including: your specialty, your age, sex, whether you are certified, geographic location of your practice, educational preparation, and years in practice. All data will be reported in the aggregate, (i.e. as a whole group), and individuals will remain anonymous.

There is no mechanism for me to identify your name, so you will receive a reminder notice after you have already completed the questionnaire. Again, this is done only to assure anonymity. You indicate your voluntary agreement to participate by completing and returning this survey.

I know that your time is valuable. However, I do sincerely appreciate the 10 minutes required to fill out this survey, and the prompt return of the survey in the self-addressed, stamped envelope.

Thank you in advance for your participation.

Sincerely,

Lyn Behnke, RN, MSN Candidate
Michigan State University
College of Nursing

IF YOU WOULD LIKE A COPY OF THE RESEARCH FINDINGS, TEAR OFF THIS PORTION AND MAIL WITH YOUR NAME AND ADDRESS UNDER A SEPARATE COVER.

Name_____
Address_____
_____

Mail to:
Lyn Behnke, RN
XXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXX

19 March 1990

Dear Doctor.

As a graduate student in the College of Nursing at Michigan State University, I am gathering data for my thesis. My interest is in the assessment of perimenopausal women (ages 40-55) in relation to their cardiovascular risk status. The purpose of this research is to identify practice patterns in relation to cardiovascular risk assessment in the Tri-county area of Genesee, Lapeer, and Shiawassee Counties.

The study is of a descriptive nature, and your input is essential to this research. Your name was selected from the yellow pages of the telephone book listing your specialty. Please be assured that there is no risk to you by participating in this study. The only identifying features included in this study are the questions relating to demographic information, including: your specialty, your age, sex, whether you are board certified, number of perimenopausal women seen in your practice per week and years in practice. All data will be reported only in the aggregate, (i.e. as a whole group), and individuals will remain anonymous.

There is no mechanism for me to identify your name, so you will receive a reminder notice after you have already completed the questionnaire. Again, this is done only to assure anonymity. You indicate your voluntary agreement to participate by completing and returning this questionnaire.

I know that your time is valuable. However, I do sincerely appreciate the 10 minutes it will take to fill out this survey. A self-addressed stamped envelope is included for your convenience.

Thank you in advance for your participation.

Sincerely,

Lyn Behnke RN, MSN Candidate
Michigan State University
College of Nursing

IF YOU WOULD LIKE A COPY OF THE RESEARCH FINDINGS, TEAR OFF THIS PORTION AND MAIL WITH YOUR NAME AND ADDRESS UNDER A SEPARATE COVER.

Name_____
Address_____
_____

Mail to:
Lyn Behnke RN
XXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXX

APPENDIX B

Pilot Study Survey

When a perimenopausal woman (age 40-55) presents to your office for a ROUTINE HEALTH MAINTENANCE VISIT do you or your staff ROUTINELY:

	YES	NO
1. Weigh the patient?	_____	_____
2. Inquire as to the cause of death of family members?	_____	_____
3. Ask for a smoking history?	_____	_____
4. Measure Blood Pressure?	_____	_____
Perform fundoscopic exam?	_____	_____
5. Ask whether the patient performs aerobic activity (walking, running, cycling, swimming) for 20 minutes at least 3 times per week?	_____	_____
6. Ask about major life changes (new job, loss of job, loss of spouse change in job, children, etc.)	_____	_____
Do you investigate attitudes toward change?	_____	_____
7. Perform a 12 lead EKG?	_____	_____
8. Ask for a diet history?	_____	_____
9. Order a fasting glucose?	_____	_____
A random glucose?	_____	_____
A post-prandial glucose?	_____	_____
10. Order a serum cholesterol?	_____	_____
triglycerides?	_____	_____
HDL/LDL levels?	_____	_____

Any other parameters that you use?_____

Please complete a few demographics for descriptive purposes only. It will not be possible to identify you from this information.

PHYSICIANS:
What is your specialty?

Family Practitioner_____ Internist_____ Obstetrician-Gynecologist_____

Board Certified?_____

NURSES:
Nurse Practitioner_____

Clinical Nurse Specialist_____

What is your specialty?

a. Family?_____ Certified?_____
b. Maternal-Child?_____ Certified?_____
c. Geriatric? _____ Certified?_____
d. Med/surg? _____ Certified?_____
e. Oncology? _____ Certified?_____
Other (please list) _____ Certified? _____
Private Practice? Yes_____ No_____ If no, where? (ie. clinic, hospital, etc.)

_____

ALL PARTICIPANTS:

14. Years in Practice: _____

15. Male or Female? _____

16. Number of perimenopausal women seen in your office per year:

25-50_____ 51-75_____ 76-100_____ 101-150_____

151-200_____ 201-300_____ over 300 _____

Thank You for your time and effort. Please disregard any further reminders that you may receive.

APPENDIX C

Instrument

When a perimenopausal woman (age 40-55) presents to your office for a ROUTINE HEALTH MAINTENANCE VISIT do you or your staff ROUTINELY:

		YES	NO
1.	Weigh the patient?	_____	_____
2.	Inquire as to the cause of death of family members?	_____	_____
3.	Obtain a smoking history?	_____	_____
4.	Measure Blood Pressure?	_____	_____
5.	Perform fundoscopic exam?	_____	_____
6.	Ask whether the patient performs aerobic activity on a routine basis?	_____	_____
7.	Ask about major life changes (new job, loss of job, loss of spouse change in job, children, etc.)	_____	_____
8.	Do you investigate attitudes toward change?	_____	_____
9.	Perform a 12 lead EKG?	_____	_____
10.	Obtain a diet history?	_____	_____
11.	Order a fasting glucose?	_____	_____
12.	Order a random glucose?	_____	_____
13.	Order a post-prandial glucose?	_____	_____
14.	Order a serum cholesterol?	_____	_____
15.	Order triglycerides?	_____	_____
16.	Order HDL/LDL levels?	_____	_____

Any other parameters that you use to screen perimenopausal women (ages 40 to 55) for cardiovascular disease?_____

_____

_____

(next page, please)

Please complete a few demographics for descriptive purposes only. It will not be possible to identify you from this information.

I. PHYSICIANS (ONLY):

What is your specialty?

Family Practitioner_____ Internist_____ Obstetrician-Gynecologist_____

Board Certified?_____ GO TO SECTION III.

II. NURSES (ONLY):

Nurse Practitioner_____ Clinical Nurse Specialist_____

Highest Degree in Nursing?

AD with NP certificate_____ Dipl. with NP certificate_____
BSN with NP certificate_____ MSN_____
PHD_____

What is your specialty?

a. Family?_____ Certified?_____
b. Maternal-Child?_____ Certified?_____
c. Geriatric?_____ Certified?_____
d. Med/surg?_____ Certified?_____
e. Oncology?_____ Certified?_____
Other (please list)_____ Certified?_____

Private Practice? Yes_____ No_____ If no, where? (ie. clinic, hospital, etc.)

_____

Geographic location (county) of practice_____

_____ GO TO SECTION III. _____

III. ALL PARTICIPANTS:

Years in Practice?_____ AGE_____

Male or Female?_____

Number of perimenopausal women seen in your office for routine health maintenance per week:

10-30____ 31-51_____ 52-72_____ 73-93_____ over 93_____

Thank You for your time and effort. Please disregard any further reminders that you may receive.

APPENDIX D

Approval Letter From UCRIHS

MICHIGAN STATE UNIVERSITY

UNIVERSITY COMMITTEE ON RESEARCH INVOLVING
HUMAN SUBJECTS (UCRIHS)
206 BERKEY HALL
(517) 353-9738

EAST LANSING • MICHIGAN • 48824-1111

March 2, 1990

IRB# 90-080

Lyn Behnke, R.N.
G-3095 Stockbridge Ave.
Flint, MI 48506

Dear Ms. Behnke:

RE: "CARDIOVASCULAR RISK ASSESSMENT OF PERIMENOPAUSAL WOMEN: A DESCRIPTIVE STUDY **IRB# 90-080**"

The above project is exempt from full UCRIHS review. The proposed research protocol has been reviewed by another committee member. The rights and welfare of human subjects appear to be protected and you have approval to conduct the research.

You are reminded that UCRIHS approval is valid for one calendar year. If you plan to continue this project beyond one year, please make provisions for obtaining appropriate UCRIHS approval one month prior to March 2, 1991.

Any changes in procedures involving human subjects must be reviewed by UCRIHS prior to initiation of the change. UCRIHS must also be notified promptly of any problems (unexpected side effects, complaints, etc.) involving human subjects during the course of the work.

Thank you for bringing this project to my attention. If I can be of any future help, please do not hesitate to let me know.

Sincerely,

John K. Hudzik, Ph.D.
Chair, UCRIHS

JKH/sar

cc: M. Rothert

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