

HEALTH BELIEFS OF ACTIVE DUTY ARMY WOMEN: BARRIERS TO WELL
WOMAN EXAMINATIONS

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Department of Defense

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ABSTRACT

The diagnosis of breast or cervical cancer will be given to over two million women in the United States during the 1990s. Recommendations for clinical breast examination and Papanicolaou (Pap) smear as a preventive health examination are advocated by the American Academy of Family Physicians (AAFP), the American Cancer Society (ACS) and the American College of Obstetricians and Gynecologists (ACOG). Army Regulation outlines annual examination requirements for active duty Army women. The Barriers construct of the Health Belief Model (HBM) was used as the conceptual framework to guide this study. A descriptive study design was used to identify compliance, perceived barriers, and intent to seek well woman examinations. Questionnaires were distributed to 65 active duty Army women using a convenience sample from Army units located in the northeast United States. A Barriers Scale devised by Melynk was modified and four subscales were assessed: provider/consumer relationship, site related, fear, and inconvenience. The combined subscales were also evaluated. A Likert Scale was used to assess barriers to seeking well woman examinations and ratings on the Likert scale were “none,” “slight,” “moderate,” and “great” regarding barriers. While all women did not report having a clinical breast examination and Pap smear in the past 12 months, 71 and 77% respectively complied. The modified Barriers Scale revealed that only the provider/consumer relationship subscale was a barrier to seeking well woman care, and this was particularly noted by items regarding continuity of care and the ability to pick a good provider. Other constructs of the HBM need to be studied to determine if they affect compliance.

Key Words: **barriers** **well woman examination** **active duty Army women**

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by

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PREFACE

This research was conducted to provide information about active duty Army women's maintenance of well woman examinations and perceived barriers to such examinations. It was designed to provide information for a population in which there is no published research and to begin to create a body of knowledge.

DEDICATION

To my husband, I dedicate the successful completion of this thesis. Without his tireless support this would not have been possible. He was my coach with each up hill challenge, my cheerleader with each step of the process, and my strength through it all.

To my children, I dedicate myself. They keep me grounded and inspire me to be the best that I can be. Their love is unconditional and they are my life.

To my parents, I dedicate the creation of this thesis. They have instilled in me the values necessary to always strive toward excellence, and to accept nothing less than my best. Their support and encouragement in all of my endeavors through my life have made me the Army Nurse Corps officer I am today.

To my class mates and faculty I dedicate this research. Their support and encouragement was evident from the first day of classes through the completion of this program. The Class of 2000 was unlike any class in the history of the Graduate School of Nursing, and I was honored and proud to be a part of a group that was the embodiment of cooperation and esprit de corps.

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CHAPTER I: INTRODUCTION

How tragic it would be if just one woman avoided what might be a life-saving screening program because she questioned its value or simply didn't know where to go or who to turn to (Centers for Disease Control and Prevention, 1995, p. 1).

Background

Breast and cervical cancer are two common forms of cancer facing women today. According to the American Cancer Society (ACS, 1999a), with the exception of dermatologic cancers, breast cancer is the most prevalent cancer among women in the United States. During 1999, the ACS estimates that there will be 175,000 new diagnoses of invasive breast cancer. In addition, breast cancer is the second leading cause of cancer death in women. According to the ACS, 43,300 deaths due to breast cancer are estimated to occur in the U.S. during 1999. Moreover, at least one of nine women will have a diagnosis of breast cancer at some point in their lives (Stager, 1993).

Like that of breast cancer, cervical cancer also has a significant morbidity and mortality rate. Cervical cancer is the second most common malignancy worldwide (Burak & Meyer, 1997). During 1999 the ACS estimates that in the United States there will be 12,800 new cases of invasive cervical cancer. Additional research predicts that noninvasive cervical cancer diagnoses will be four times as high as invasive cervical cancer. Cervical cancer is the ninth most deadly cancer of women in the United States, and this year about 4800 will die from the disease (ACS, 1999b).

The clinical breast examination and Papanicolaou (Pap) smear are part of a preventive health examination for women (Vickery & Fries, 1996). The American College of Obstetricians and Gynecologists (ACOG) advocate that all women over the

age of 18 have a clinical breast examination in conjunction with a periodic Pap smear (Public Health Service (PHS) Office of Disease Prevention and Health Promotion, 1998a, 1998b). The American Academy of Family Physicians (AAFP), the American Cancer Society (ACS), and the ACOG also recommend that all women who have reached the age of 18, or who are sexually active regardless of age, and have a cervix have an annual Pap smear (Burak & Meyer, 1997).

Early detection of both breast and cervix changes is the key for survival (PHS, 1998a, 1998b). Clinical breast examination provides an excellent means of screening for breast cancer. It has been shown to yield a 45% detection rate of breast cancer versus a 26% detection rate by breast self examination only. Clinical examinations with Pap smears have also provided excellent diagnosis and early detection. The Pap smear can detect up to 90% of the most common types of cervical cancer, and the incidence of cervical cancer has been reduced 70% in the last several decades due to screening (Mannino, 1998). The progression of cervical abnormalities to cervical cancer can be prevented or delayed through early detection, and the Pap smear has resulted in a decreased morbidity and mortality from cervical cancer (Burak & Meyer, 1997).

The diagnosis of breast or cervical cancer will be given to approximately two million women in the United States during the 1990s. In addition, 500,000 women are estimated to die as a result of these diseases (CDC, 1996). Despite these statistics, the strong recommendation for preventive care, and the success of the clinical breast examination and Pap smear for cancer detection, studies indicate that women do not consistently seek this health care (Kowalski & Brown, 1994). In 1996, half of the women diagnosed with cervical cancer had never had a Pap smear, and 10% had not had a Pap

smear in the previous five years (National Institutes of Health, 1996).

Preventive care through clinical breast examination and Pap smears is equally important for military women. As of 30 September 1998 there were 71,778 women on active duty, which accounts for 14.83% of all personnel on active duty. Army Regulation (AR) 40-501 outlines the "frequency of additional/alternate examinations" such as the clinical breast examination and the Pap smear. Females on active duty in the Army, regardless of age, are required by regulation to "undergo annual breast and pelvic examinations to include a cervical cytologic screening test for cancer" (Department of the Army, 1998, p. 56). The examination is mandatory and is to occur during the soldiers' birth month. Department of Defense Form 2766 (1998) outlines the requirements for preventive and chronic care for adults. It mirrors the guidelines put forth by the ACOG, and the AAFP. The recommendation is for baseline Pap smear at age 18, or onset of sexual activity regardless of age, and annually until there have been three consecutive normal examinations. The guidelines recommend that after this is documented, that the Pap smear be done at least once every one to three years. Both groups espouse that women under the age of forty have a clinical breast examination during annual periodic examinations (PHS, 1998a, 1998b). The guidelines set forth are less restrictive for active duty Army women than Army Regulation; the active duty woman is required however to follow AR 40-501 (Major Steven Roth, personal communication, December 7, 1998). Despite Army Regulation for annual clinical breast examination and Pap smears for all active duty Army women, this researcher's personal clinical experience as the clinical nurse manager of a Family Practice Clinic revealed that few active duty Army women were adhering to the standards. During a random chart audit conducted over a six month

period from February 1998 through July 1998, this researcher found that active duty women assigned to the Family Practice Clinic were less likely than family members, or other eligible beneficiaries to have a current documented clinical breast examination or Pap smear in their medical record.

As the site administrator for the Department of Defense Breast Cancer Prevention, Education, and Diagnosis Program (1996), this researcher informally interviewed patients and discovered that there were numerous reasons identified for not seeking well woman care. These reasons included but were not limited to: fear of the examination, anxiety as a result of the implied intimacy of the examination, and conflict with individual mission responsibilities. All active duty women “are not aware” that a regulation exists that requires an annual clinical breast examination and Pap smear. Additional reasons for noncompliance with the regulation may also be lack of emphasis for compliance from commanders, lack of perceptions of need, the appointment system, frequent field training exercises, and deployments (Major Kathie McCroary, Women’s Health Certified Nurse Practitioner, USA, personal communication, December 18, 1998). Despite this researcher’s personal findings of decreased compliance among active duty Army women in a Family Practice Clinic, there have been no research studies published related to military women’s adherence to the standards in seeking annual well woman examinations.

In summary, this area of study is important and has serious implications for active duty Army women’s health, and the success of the mission of the Army. The potential sequela from failure to seek periodic well woman examinations can impact on all aspects of the individual’s life, including military readiness and deployability. Preventive health care is

crucial to maintain overall health and an adequate deploying strength. The ultimate consequence is personal and personnel loss, suffering, and mission degradation.

Purpose of the Study

The purpose of this study was to describe active duty Army women's adherence to the Army regulation regarding well women examination and the reasons that they seek well woman care. In addition, the study assessed perceptions related to barriers to seek a well woman examination. The study used a non-experimental descriptive design that employed the Health Belief Model (HBM) (Becker, 1974) as the theoretical framework. Perceived barriers was the HBM variable used in this study and the sample was active duty women.

Research Questions

There is little or no published research on perceptions of active duty women related to perceived barriers to seeking well woman examinations. As a result, the following research questions were addressed to create the foundation for this study. The research questions were:

1. To what extent do active duty Army women obtain annual well woman examinations?
2. What is the reason that active duty Army women receive well woman care?
3. To what extent are provider/consumer relationships a barrier to active duty Army women seeking well woman examinations?
4. To what extent are site related items a barrier to active duty Army women seeking well woman examinations?

5. To what extent is fear a barrier to active duty Army women seeking well woman examinations?
6. To what extent is inconvenience a barrier to active duty Army women seeking well woman examinations?
7. To what extent are the combined items of the modified Barriers Scale a barrier to active duty Army women seeking well woman examinations?
8. What is the active duty Army woman's intent to seek a well woman examination?

Theoretical Framework

The Health Belief Model (HBM) (Becker, 1974) was used as the theoretical framework for this study. The HBM is used in research to examine the "likelihood that individuals will seek help or change behavior in order to avoid illness" (Clark, 1986, p. 31). There are three broad beliefs: general health motivation, perception of the threat of a specific disease, and perception of the effectiveness of health behaviors to impact on the threat. The beliefs are interrelated to determine health behaviors (Mirotznik, Ginzler, Zagon, & Baptiste, 1998).

The main assertion of the HBM (Becker, 1974) is that individuals will participate in preventive health behaviors if they conclude they are threatened by a disease or condition. In addition, individuals must believe that the benefits to seeking preventive health care take precedence over the barriers to seeking the health care (Burak & Meyer, 1997).

The HBM (Becker, 1994) has six constructs that can be used to determine why people behave in certain ways, and what interventions can be used to decrease a person's

risk of disease (Leddy & Pepper, 1998). These include the concepts of perceived susceptibility, perceived severity, benefits of action, perceived threats of disease, costs of action, and cues that trigger health-seeking behaviors. An individual may believe that there are actions that reduce the likelihood of disease, but may also believe that the action to do so is inconvenient, expensive, unpleasant, painful or upsetting (Rosenstock, 1966). These are the negative aspects to seeking care, and are “barriers to action and arouse conflicting motives of avoidance” or those things that impact on seeking health care (Rosenstock, 1974, p. 331).

Current research defines barriers as the cost of taking health action. These costs include financial, time and effort, inconvenience and associated pain or discomfort. This definition of the concept of barriers is consistent with the definition proposed in the HBM (Melynk, 1990). The HBM asserts that individuals may delay preventive health care until there is a precipitating event, despite perceptions of susceptibility, and severity of the disease or condition (Burak & Meyer, 1997). In addition, individuals examine their belief of the effectiveness of preventive care in conjunction with their belief of the consequences of the preventive care (Hiltabiddle, 1996). The model components of perceived susceptibility and barriers (cost of action) have been shown to explain or predict health prevention behaviors (Leddy & Pepper, 1998).

For the purpose of this study, only the concept of barriers was used to address active duty Army women’s adherence to well woman examinations, which includes a clinical breast examination and Pap smear. This researcher used this construct of the HBM to frame the research questions and lay the foundation for further study. These are critical areas to examine for the active duty woman; although mandated by regulation

with inherent consequences for failure to comply, active duty women do not consistently seek well woman examinations.

Definition of Relevant Terms - Theoretical and Operational

For the purpose of this study, the following terms are theoretically and operationally defined:

Active Duty Personnel

Any personnel ordered by the Department of the Army to serve on active duty. This includes all women in the Army regardless of age, on active duty or Active Duty for Training tours or Air National Guard Active Guard - Reserve (AGR) tours.

For this study, active duty personnel was operationally defined to include only active duty Army women.

Barriers

Costs of actions. These are the individual's estimate of financial cost, time and effort, inconvenience, possible pain or discomfort, relationship with the provider, site of care, and fear as a result of the action (Rosenstock, 1974).

For this study barriers was operationally defined as factors that impact on an individual's health seeking behavior toward clinical breast examination and Pap smears. The 23 items on the modified Barriers Scale are operationally defined as combined factor barriers for this study. The items are defined further in subscales related to provider/consumer relationship, site related factors, fear, and inconvenience.

Provider/consumer relationship. This pertains to the relationship that people have with their health care provider that can affect whether or not they seek well

woman care. Items one through eight of the modified Barriers Scale operationally define this subscale for this study.

Site related factors are those characteristics of a health care system that can affect whether or not people seek health care. This subscale is operationally defined by items nine through 12 of the modified Barriers Scale.

Fear prevents people from seeking well woman care due to personal or past experiences. For this study, the fear subscale is operationally defined by items 13, 14, 15, 16, 19, 21, and 22.

Inconvenience prevents people from seeking well woman care due to personal or past experiences. The inconvenience subscale is operationally defined by items 17, 18, 20, and 23 of the modified Barriers Scale.

Intent

Intent implies a plan to complete an act. For this study intent is operationally measured by items 11 and 12 on the demographic cover sheet.

Well Woman Examination

Annual examinations as recommended by the ACOG, AAFP, ACS, and Army Regulation defined as clinical breast examination and Pap smear performed by a credentialed healthcare provider in a clinical setting.

Clinical Breast Examination - breast examination performed by a physician, nurse practitioner or other credentialed health care provider in a clinical health care setting.

Pap smear - cervical cancer screening test performed by a physician, nurse practitioner or other credentialed health care provider in a clinical health care setting.

Assumptions

The following are assumptions that have been identified and may have impact on the outcome of the study if not considered. The assumptions pertain to the sample, the tool, and the application:

1. Respondents will answer questions in the tool honestly.
2. Respondents will complete the entire questionnaire.
3. The questions in the tool represent the barriers to be studied.
4. Active duty women want to adhere to preventive medical examination requirements.

Limitations

The following limitations are identified in an effort to maximize the potential of the study to answer the research questions. The limitations in this study concern the type of sampling, and the tool used:

1. The use of a convenience sample can introduce bias and cause the data to be non-generalizable to all women on active duty.
2. Data on maintenance of well woman examinations were obtained from items on a questionnaire rather than from personal interview or review of a military or medical record. Data obtained from the survey may be the result of knowledge of Army Regulation, rather than specific, individual behaviors or beliefs. Use of a survey limits validation of the respondent's information due to the promise of respondent anonymity.
3. Many factors can influence obtaining clinical breast examinations and Pap smears. This study was limited to barrier items surveyed on this questionnaire and may not reflect other beliefs regarding well woman examinations by the subjects.

Summary

The purpose of this study was to describe active duty Army women's adherence to Army Regulation related to well woman examinations, and to do this through use of one component of the HBM (Becker, 1974). Perceived barriers may be predictive for patterns of health seeking behavior. The research questions pertain to the experiences of active duty Army women related to well woman examinations. The results may be helpful in identifying compliance with the standards for health maintenance, and also to identify the need for additional study. Chapter II will provide an overview of the literature as it applies to women's maintenance of well woman examinations and barriers to seeking care.

CHAPTER II: REVIEW OF LITERATURE

If a man has come to that point where he is so content that he says; I do not want to know any more, or do any more, or be any more, he is in a state of which he ought to be changed into a mummy (Henry Ward Beecher, 1847, p. 1).

Introduction

The purpose of this research study was to identify active duty Army women's perceptions of barriers to seeking well woman examinations. In addition, active duty Army women's adherence to the current regulation related to well woman examinations was considered. Through this, it is this researcher's hope that the study will expand existing knowledge, but more importantly create an initial body of research related specifically to active duty Army women.

There is no published literature about military women's perceptions of barriers to seeking well woman examinations. Published literature does exist looking at this phenomenon in non-military women. As a result, this review of the literature will address empirical studies and theoretical data pertaining to breast and cervical cancer and perceptions of barriers to seeking well woman care among women in the civilian sector.

Breast and Cervical Cancer

There are approximately 500,000 cancer related deaths annually; for 1999 over 47,000 of these deaths are expected to be a result of the consequences of breast or cervical cancer (ACS, 1999). "Screening mammography and Pap smears have been shown convincingly to decrease breast and cervical cancer mortality" (Margolis, Lurie, McGovern, Tyrrell, & Slater, 1998, p. 515).

In a study by Margolis et al. (1998), 2450 women, aged 40 years and over, were recruited from non primary-care outpatient clinics in an urban county teaching hospital and put into breast or cervical cancer screening groups. The authors wanted to determine if there would be a higher screening rate for breast and cervical cancer if women were approached by lay health advisors about screening, and offered opportunities with nurse practitioners for screening. The authors used a controlled trial, and patients were placed in a “usual care group” or “intervention group” based on an odd or even medical record number. Patients were classified as “needing breast and cervical cancer screening” or as “up to date for screening” (p. 516). Women in the usual care group were not contacted by the researchers until follow up data collection 12 months later. The intervention group was contacted by the researchers, reminded that the screening was desired, and offered an appointment with a nurse practitioner for screening.

The intervention was found to be associated with higher breast and cervical cancer screening rates. Women who were due for screening at the start of the study had higher screening rates in the year following the intervention. The results revealed that rates of breast and cervical cancer screening are improved through identification of women who are due for screening and using “lay health advisors” (Margolis et al., 1998, p. 520) to plan screening opportunities. The authors also concluded that for their population, this was a desired effect for a group needing screening the most.

According to Breslow, Sorkin, Frey, and Kessler (1997) Americans do not know the major risk factors for common cancers, including breast and cervical cancer. In their study, data was compiled from over 12,000 respondents completing a cancer control interview. The interview included questions about cancer risk factors and survival. Two

thirds of the respondents did not know that the risk of breast and colon cancer increases with age, that diet impacts on the risk of colon cancer, or that multiple sex partners increases the risk for cervical cancer. The authors concluded from the data that Americans need not only education about risk factors for developing common cancers, but also information about the impact of early detection on survival.

Barriers to Seeking Well Woman Examinations

Assessing women's knowledge of cervical cancer screening and cervical cancer is important for preventing unnecessary cancer related morbidity and mortality. Neilson and Jones (1998) contend that the health beliefs of individuals are components in decisions to take action or not to take action. They believe that people's "ideas about health maintenance and the prevention of disease are indispensable for the success of health education, health promotion, and screening programs" (p.572). They identified the following as barriers to screening programs: emotional (fear) of embarrassment, of pain, or of finding something wrong, emotional (hate), economic (time/money), logistical (arrangements), and social (blaming others).

Neilson and Jones (1998) studied 72 women aged 20 to 60 who had never had a Pap smear, or who did not wish to have a Pap smear. A general medical practice in Scotland was chosen to conduct the study, and the sample was derived from this practice. Investigators completed a questionnaire by telephone or personal interviews. The respondents were asked about invitations to attend cervical screening programs. The results showed that reasons for non-attendance included dislike of the idea of the test, fear, appointment availability, regarding self as ineligible for screening, and belief that the test is unnecessary. Forty percent of those surveyed reported no knowledge of

cervical cancer and only 33% reported that they were aware of preventive measures that could be used.

Primary health care providers are in the best position to advocate screening for cancers that are found in women. In a retrospective chart review, Blair (1998) investigated whether or not family practice physicians and residents were screening older women for breast, gynecologic, and colorectal cancers as recommended by current guidelines. Two hundred and one women, aged 60 and older from a midwestern family practice residency program were studied. The result was that breast cancer screening was offered to 70% of the sample but only one third agreed to receive mammography or clinical breast examination. The reasons hypothesized for failure of the patient to follow through with the recommendation included cost, availability, accessibility, provider gender, and fear of the procedure.

Gynecologic cancer screening was recommended to 63% of the sample, but less than one third received Pap smears. Possible explanations for the number was embarrassment, provider relationship, and influence from “significant others” (Blair, 1998, p. 221). One major limitation to the study identified by the author was that the study was conducted by chart review, so suggestions and patient encounters are not always documented thoroughly. According to Blair, however, there are important clinical implications that include the fact that barriers for appropriate screening exists in both the provider and the patient.

Burak and Meyer (1997) used the constructs of the HBM to look at benefits and barriers to gynecological screening and Pap smears. The study was conducted on 400 undergraduate students at a state college on the East Coast. Respondents were strongly

positive that gynecologic and Pap smear screening was advantageous. Ninety three percent agreed that gynecologic and Pap smear screening was essential for health. Three barriers investigated were pain, embarrassment and cost. Two thirds of the respondents reported the examinations were embarrassing, but this was significantly more likely from a respondent who had never had an examination. The same was true for perceptions of pain related to the examination. As for cost, 42% thought the examinations were expensive but of those, 90% had health insurance.

The results provided information about the respondents' belief about gynecological screening, but it cannot be generalized to predict intentions to be screened, or screening behaviors. The authors concluded that although beliefs provide important information, they can not explain college women's' gynecologic screening behaviors (Burak & Meyer, 1997).

Screening behavior of all women is impacted by low income, fewer years of education, increasing age and lack of physician recommendation or referral. Women of low socioeconomic status are challenged by access to health care, screening costs, and fear of the diagnosis of breast cancer. Older women may believe that screening is only needed in the event of symptoms, or they are not aware of their actual risk. Many women fail to seek screening simply because they are unaware of the value (CDC, 1995).

Kowalski and Brown (1994) examined factors that prevent or inhibit women from seeking and receiving cervical cancer screening. The respondents for this study were 82 women aged 18 to 26 who were fulfilling a research course requirement. Questionnaire items included intentions to seek a gynecological examination, frequency of cervical screening, personality variables, and knowledge about cervical cancer and gynecology.

Knowledge was considered “acceptable” as 35% of the respondents knew that barrier contraception decreased the risk of cervical cancer, 27% knew that socioeconomic status was related to cervical cancer and 70% knew that sexually transmitted disease increased a woman’s risk for cervical cancer. Ninety four percent of the respondents reported the belief that the Pap smear is the most important test to detect and prevent cervical cancer, but 28% had never had a Pap smear.

Women who were socially anxious, and who had a high physique anxiety reported that they would be less likely to receive a gynecological examination, and were less likely to seek an examination in the next year. The same was true for women who scored high in public self-consciousness and fear of negative evaluation. Barriers identified for cervical screening and Pap smears included lack of information about cervical cancer and the effectiveness of screening in detecting the cancer. The authors found that the level of anxiety the respondent had toward preventive measures decreased the likelihood that preventive measures would be undertaken (Kowalski & Brown, 1994).

Army Regulation

Army Regulation mandates annual breast and cervical cancer screening for all active duty Army women. Compliance with this mandate is the responsibility of the individual, and is accomplished during the soldiers birth month, through a clinical breast examination and Pap smear (Department of the Army, 1998). Compliance with regulation is expected, but there is no published research that examines the multifactorial challenges of this requirement. Compliance with the examination is the basis for this authors research; do barriers affect a soldier’s compliance with regulatory guideline for

well woman examinations. The researcher's personal experience has illustrated that beliefs may play a role in compliance.

Summary

The review of the literature demonstrated that there are numerous studies that examine the concept of perceived barriers to seeking well woman care. The literature focuses on numerous different populations of women that are at the age when clinical breast examinations and Pap smears are needed. The literature supports the notion that perceived barriers are predictive of health seeking intention and in some cases health behaviors. The ideal would be health care maintenance despite barriers, and that an increased awareness in all populations would have an impact in overcoming barriers to seeking care.

There was no literature found that specifically addressed the unique issues encountered by active duty Army women. The question of whether regulatory guidelines supersede individual perceptions remains to be determined. Further study is needed to highlight the profound impact that non-adherence to the regulation and to the guidelines for breast and cervical cancer screening can have on individual health and mission readiness.

Chapter III discusses the methodology that was used to describe the study population. It outlines the way that data collection was done to identify perceived barriers in seeking well woman examinations based on the modified Barriers Scale. Chapter III also provides the methodology that was used to evaluate the adherence to Army standards for the well woman examination, and the impact of individual perceptions regarding barriers on compliance.

CHAPTER III: METHODOLOGY

To accomplish great things, we must not only act, but also dream, not only plan, but also believe (Anatole France, 1921, p.1).

Introduction

The purpose of this research study was to identify active duty Army women's perceptions of barriers to seeking well woman examinations. This chapter describes the methodology of the study. The research design is also discussed to include the sample and setting, measurement methods, protection of human rights, and the data analysis.

Research Design

Descriptive study designs are used to gain information about characteristics in a particular field of study. They can be used to develop theory, identify problems and justify current practice, or to determine what others are doing (Burns & Grove, 1993). In this study a descriptive design was used to identify the perceptions of active duty Army women related to barriers to seeking well woman care. The use of the descriptive design is appropriate, as this researcher is attempting to gather information about this phenomenon for a population in which no research studies have been published. This researcher will describe group characteristics to gain a base of information about this unique population of women.

Sampling and Setting

The research study subjects were active duty Army women as defined in Chapter I of this study. Active duty personnel were defined as any personnel ordered by the Department of the Army to serve on active duty. This includes all personnel in the Army

regardless of age, on active duty, on Active Duty for Training tours, or Air National Guard - Reserve (AGR) tours. It did not include personnel with less than one year in service, new recruits or accessions, personnel serving in the reserve component or personnel who were pregnant. For this study, active duty personnel were defined to include only active duty Army women.

The sample was collected using a convenience sample of personnel attending a mandatory Birth Month Annual Review (BMAR) training at a large Army medical facility located in the North Eastern United States. Coordination was made with Personnel Activity (PAC) to distribute questionnaires during the briefing. The questionnaire was distributed during consecutive briefings until an adequate sample was obtained.

All active duty Army women who attended the training and met the inclusion criteria were eligible for selection for the study regardless of age. According to Burns and Grove (1997) in descriptive studies that use a survey, large samples are often needed because multiple variables can influence the respondent's answers. The sample size must be large enough to obtain a representative sample of active duty Army women. For this study however, the variables of rank, age, ethnicity and education were used only to describe the sample, and were not factored in for statistical analysis. For this study the sample size was 65.

Instrument Development and Modification

Perceived barriers was measured using a Barriers Scale originally developed by Melnyk (1990) that was created specifically to measure and interpret this variable. Melnyk in her research wanted to determine a method to operationalize the patients

perception of the “costs or obstacles to care” (p. 108). A 12 member panel participated in a three stage Delphi process to identify concept indicators. Panel members were chosen based on their knowledge of the health care system. Barriers were identified and refined; 54 of 81 items were selected for a well population seeking preventive care. Eight hundred employees of a non-profit organization were surveyed, and asked to rate the 54 barrier indicators on five point Likert scale. Exploratory factor analysis was used to evaluate construct validity. Five factors were identified as barriers, and confirmatory factor analysis was used to modify the indicators. The Barriers Scale that evolved from this research contains five subscales: provider/consumer relationship, site-related factors, cost, fear and inconvenience. At the request of the author, the entire Barriers Scale was administered regardless of the number of subscales used in the research project for data analysis. However, whole sections can be omitted if the purpose and design of the study merit (Melnyk, 1990).

For this study the Barriers Scale was modified with permission of the author to meet the unique characteristics of the active duty Army woman. Items related to financial cost were omitted due to the nature of the active duty health care environment. Items were added to address the clinical breast examination and Pap smear items separately to ensure accuracy in interpreting the data (see Appendix A).

Each item in the scale was analyzed using a four point Likert scale and was scored from three to zero. Three equals “greatly,” two equals “moderately,” one equals “slightly,” and zero equals “none.” Values were added to provide a score for each of the subscales and combined to provide a total combined Barriers score. Items not answered were scored as zero (Melnyk, 1990, p. 109).

Reliability and Validity

Content validity for the modified Barriers Scale used in this study was established using a panel of two clinical experts who are in current practice in Family Practice outpatient settings. One expert is a certified registered Family Nurse Practitioner in a civilian setting, and the other a board certified Family Practice physician on active duty in the Army. The two experts evaluated the modified tool separately in its entirety. Using a four point degree of relevance scale, each item was rated as to its degree of relevance to the purpose of the study. A Content Validity Index (CVI) was calculated and the result was .75. A CVI of .7 or greater was considered acceptable to proceed with the study. No modifications were made to any of the items of the modified Barriers Scale after the CVI was obtained.

The modified Barriers Scale has four subscales, and as a result an estimate of internal consistency of each of the subscales was calculated from the study sample using the SPSS scales reliability procedure. Cronbach's alpha was calculated and an alpha of .8 or greater was desired for each subscale and the entire modified Barriers Scale. The subscales for site-related and inconvenience factors were slightly below the desired; this was probably due to the number of items in the subscale and the sample size for the study. Table 1 summarizes the data.

Table 1.**Alpha Coefficients for Subscales of the Modified Barriers Scale**

Subscale	Alpha
Provider/consumer relationship	.9183
Site-related factors	.7159
Fear	.8126
Inconvenience	.7846
Modified Barriers Scale	.8896

Protection of Human Rights

This researcher met with Personnel Activity staff members to coordinate distribution of the questionnaire during mandatory Birth Month Annual Review (BMAR) training sessions. This researcher gave a briefing about the study at the beginning of each BMAR training session, and a questionnaire packet was distributed to volunteers by this researcher (see Appendix A). An introduction sheet and instructions for completing the questionnaire were included in the questionnaire packet. Those personnel who met the inclusion criteria and volunteered to participate were informed that there were no risks, nor any direct benefits to their participation.

An envelope was included in the packet and completed questionnaires were given to this researcher in the envelope (sealed) to protect confidentiality. Respondents who did not want to complete the questionnaire during the BMAR training session were provided with an addressed, stamped envelope. Completed questionnaires were

maintained in a locked file cabinet. Completion of the questionnaire indicated understanding of confidential, voluntary participation in this study. Respondents could withdraw from completing the questionnaire at any point in the process.

The method of obtaining consent was approved by the USUHS Institutional Review Board. There was no identifying information on the questionnaire thus ensuring respondents' anonymity. Approval for this study was obtained from the Institutional Review Board at USUHS and by the Department of Clinical Investigation at the Army medical facility where the study was conducted (see Appendices C and D).

Plan for Data Analysis

The variable of perceived barriers to seeking a well woman examination was examined. This variable has been shown in the literature to influence health seeking behavior. The data analysis for this research involved identifying and describing variables related to health seeking behaviors of active duty Army women. Descriptive statistics were used to describe respondents demographically and in the aggregate by rank, age, ethnicity, and education. All data was described using appropriate measures to include percentage, mean, median, mode, range and standard deviation. Data was collected from the Likert scale, an ordinal scale of measurement, with respondents answering specific barrier questions.

Summary

The purpose of this study was to describe active duty Army women's adherence to Army regulation for annual well woman examinations through identifying and describing perceived barriers to such examinations. Chapter III described the method for data collection through the use of a modified Barriers Scale. The methodology described

was used to support the significance and the need for this study. Chapter IV presents the data that was collected to describe the sample, as well as data analysis specific to each research question.

CHAPTER IV: DATA ANALYSIS

The most important thing in science is not so much to obtain new facts as to discover new ways of thinking about them (Sir William Bragg, 1915, p.1).

Introduction

The success of the mission of the United States Army depends on maintaining a healthy force. Preventive health examinations are key, and for women include the clinical breast examination and Pap smear (Department of the Army, 1998). The purpose of this study was to describe active duty Army women's adherence to Army regulation regarding well woman examinations and the reasons that they seek well woman care. The study assessed Army women's perceptions related to barriers to seeking a well woman examination. In this chapter, descriptions of the sample and data analysis specific to each research question are provided.

Sample Characteristics

Active duty Army women comprised the 65 respondents in this sample group. All of the respondents met the inclusion criteria set forth; all have served on active duty greater than one year and none were currently pregnant. The enlisted ranks of E1 (Private) through E8 (Noncommissioned Officer Master Sergeant) were represented in the sample. Respondents reported Commissioned Officer ranks of 01 (Second Lieutenant) through 06 (Colonel). Eighteen, or 28%, of the respondents were in the rank of E4 (Enlisted Specialist) and E5 (Noncommissioned Officer Sergeant) and 19, or 29%, had the rank of 03 (Captain) and 04 (Major). The ages of the sample group ranged from 18 to 54 with a mean age of 33.17 years. The years in service on active duty of

respondents ranged from 1.2 to 22 years, with a mean of 9.4 years and standard deviation of 5.9. Nineteen, or 29%, of the sample had been on active duty for three to five years, and 15, or 23%, reported being on active duty for 11 to 15 years. Ten, or 15.4%, reported active duty time of 15.5 to 18 years. This represents 67.7% of the sample group.

Ethnicity was reported by 64 of 65 respondents. Thirty three, or 51%, of the sample group indicated they were White/Caucasian and 21, or 32%, of the respondents indicated they were Black/African American. These two ethnic groups comprised 83% of the total sample. Four respondents reported Hispanic, three reported Asian, one reported Native American, and two respondents identified “other.” These four ethnic groups accounted for 26.2% of the sample.

Highest educational level obtained by the respondents ranged from high school to attainment of other professional degrees (defined to the respondents as physician, dentist, lawyer, or podiatrist). Sixty three of the 65 respondents provided information for this question. Fifteen, or 23%, of the respondents reported high school as the highest degree or education obtained, 10, or 15.4%, reported Associate degree, 19, or 29%, reported Bachelors degree, 10, or 15.4 %, identified Masters degree, three, or 4.6 %, listed Doctorate, and six, or 9.2%, identified “Other Professional degree.”

Respondents were asked in Demographic Question Eight “Have you been deployed to a remote area in the past 12 months?” This question was included to determine if deployment impacted on maintenance of preventive health examinations. Three, or 4.6%, of the total sample responded “Yes” to deployment in the past 12 months. Of these three, only one answered “No” to both parts of Demographic Question

10 “Have you had a well woman examination that consisted of a clinical breast examination and Pap smear in the past twelve months?”

Demographic Question 13 asks “Who or which provider provides most of your women’s health care related to well woman examinations (clinical breast examinations and Pap smears)?” Respondents were asked to circle only one of the providers listed. The list was comprehensive to account for the type of providers that most active duty Army women encounter.

Twenty respondents (42%) identified “Physician.” Twenty five (39%) of the respondents listed “Nurse Practitioner.” One respondent identified “Physician Assistant,” six circled “Intern/Resident,” and “Other” was identified three times. Respondents who circled “Other” did not provide for description of “Other.” Three respondents did not provide an answer to the question.

Research Question One

To what extent do active duty Army women obtain annual well woman examinations?

The well woman examination consists of a clinical breast examination and Pap smear and is advocated by the American College of Obstetricians and Gynecologists (ACOG), the American Academy of Family Physicians (AAFP), the American Cancer Society (ACS). Department of the Army (1998) mandates annual breast and pelvic examination to include a Pap smear. The existence of the regulation implies that there is compliance with maintenance of annual well woman examinations. To determine if this is in fact the case, respondents were asked to answer “Have you had a well woman examination that consisted of a clinical breast examination and Pap smear in the past twelve months?” For this question, respondents were asked to circle “yes” or “no” for

clinical breast examination and Pap smear separately. This was done to evaluate if the respondent maintained all, part, or none of the examination.

Forty six of 64, or 71%, respondents reported “yes” that they had a clinical breast examination in the past 12 months. Eighteen (28%) reported “no.” One respondent did not answer the question. Fifty (77%) of the respondents reported that they had a Pap smear in the previous 12 months. Fourteen, or 22%, reported “No.” One respondent did not answer the question. The maintenance of annual well woman examinations is summarized in Tables 2 and 3.

Table 2.

Percentage and Frequency of Respondents Reporting Completion of Annual Clinical Breast Examination

Responses	Percent (Frequency)
Yes	71 (46)
No	28 (18)
Missing	1 (1)
N=64	

Table 3.

Percentage and Frequency of Respondents Reporting Completion of Annual Pap Smear

Responses	Percent (Frequency)
Yes	77 (50)
No	22 (14)
Missing	1 (1)
N=64	

Respondents were also asked to indicate “true,” “false,” or “I don’t know” to the statement “There is an Army Regulation that states that all active duty Army women will have yearly clinical breast examinations and Pap smears.” They were instructed to circle only one answer. Knowledge of this regulation may influence health seeking behavior,

and as a result this question was included to help in the interpretation of data related to compliance with Army regulation. Sixty four of 65 respondents completed this question. Knowledge of Army regulation for clinical breast examination and Pap smears is summarized in Table 4.

Table 4.

Percent and Frequency of Responses to “There is an Army Regulation that states all active duty Army women will have yearly clinical breast examinations and Pap smears”

Response	Percent (Frequency)
True	34 (22)
False	12 (8)
I don’t know	52 (34)
N=64	

Research Question Two

What is the reason that active duty Army women receive well woman care?

The reason that active duty Army women seek well woman care may affect compliance with maintaining well woman examinations. In an effort to identify the reasons that active duty Army women seek care, respondents were asked “What is the reason that you seek well woman care?” They were asked to circle all of the reasons that apply, given a list with eight reasons for care. The question was evaluated as “yes” if the reason was circled, and “no” if it was not. There was no missing data for this question. “Problems with breast” was the first reason listed, “Problems with female organs” was the second reason listed, “Birth control pill” was next. “Birth control other than pills” was fourth, and the fifth option was “No problems with breast, only routine early

detection examination.” This was the first of two reasons that related to health prevention behaviors. Number six on the list was “No problems with female organs, only routine early detection examination.” The seventh reason provided was “Military regulation requires a regular check up,” and the final reason listed for respondents was “Other (please list).” Three respondents identified “Other” but only one respondent completed the “please list” section by writing in “annual examination.” Reasons for seeking well woman examinations are summarized in Table 5.

Table 5.

Percent and Frequency of Responses to Reasons for Seeking Well Woman Care

Reason	Percent and (Frequency)
No problems with female organs, only routine early detection examination	65 (42)
Military regulation requires a regular check up	49 (32)
No problems with breasts, only routine early detection examination	43 (28)
Birth control pills	32 (21)
Problems with female organs	22 (14)
Problems with breast	12 (8)
Birth control other than pills	8 (5)
Other	5 (3)
N=65	

For Demographic Question Nine respondents were instructed to circle all that apply from the list of reasons that well woman care is sought. The combination of reasons for each respondent was evaluated. Nine, or 14%, circled only “Problems with breast,” “Problems with female organs,” “Birth control pills,” or “Birth control other than pills”

as the reason for seeking care. Twenty three, or 35%, circled “No problem with breasts, only routine early detection examination”, “No problem with female organs, only routine early detection examination” and at least one other reason (excluding “Military regulation requires a regular check up”) as the reason that they sought care. Six, or 9%, circled only “Military regulation requires a regular check up.” Twenty, or 31%, identified “No problem with breasts, only routine early detection examination,” “No problem with female organs, only routine early detection examination,” “Military regulation requires a regular check up” and at least one other reason for seeking care. Finally six, or 9%, selected “Military regulation requires a regular check up” and one other reason (excluding “No problem with breasts, only routine early detection examination” and “No problem with female organs, only routine early detection examination”).

Research Question Three

To what extent are Provider/Consumer Relationships a barrier to active duty Army Women seeking well woman examinations?

Items one through eight of the modified Barriers Scale measure the Provider/Consumer Relationship subscale. The relationship that people have with their provider can affect whether or not they seek well woman examinations. Respondents were asked to indicate how much they believed specific items affected seeking a well woman examination. Responses include “Greatly,” “Moderately,” “Slightly,” and “None.”

The mean subscale score was evaluated and determined to be 1.19. A mean score of 3 indicated a high level barrier, a mean score of 2 indicated a moderate barrier, a mean score of 1 indicated only a slight barrier and a mean score of 0 indicated that there was no

barrier to seeking care. Table 6 provides the mean and standard deviation and Table 7 provides the percent and frequency of responses for each item determined to measure the provider/consumer relationship subscale.

Table 6.

Mean and Standard Deviation (SD) of the Provider/Consumer Relationship Subscale

Items	Mean	SD
The provider may not think my problems are real or important.	.91	.96
The provider (and his/her staff) is/are sometimes impatient and critical and act like they know everything.	1.12	1.22
I don't think I have a good provider.	.95	1.19
The provider (and his/her staff) isn't interested in my worries about my gynecologic health.	1.06	1.27
The provider doesn't take enough time to explain what s/he's doing or why, or to answer my questions.	1.14	1.29
The provider isn't interested in me unless (I'm sick or injured).	1.09	1.16
I almost never see the same provider twice in a row when I make a visit.	1.66	1.29
There's no way to find out how to pick a good provider.	1.62	1.13

N=65

Table 7.**Percent and (Frequency) of Responses by Item for Provider/Consumer Relationship Subscale**

Items	None	Slightly	Moderately	Greatly
The provider may not think my problems are real or important.	44.6 (29)	26.2 (17)	23.1 (15)	6.2 (4)
The provider (and his/her staff) is/are sometimes impatient and critical and act like they know everything.	46.2 (30)	16.91(11)	15.4 (10)	21.5 (14)
I don't think I have a good provider.	55.4 (36)	10.8 (7)	16.9 (11)	16.9 (11)
The provider (and his/her staff) isn't interested in my worries about my gynecologic health.	53.8 (35)	9.2 (6)	9 (13.8)	23.1 (15)
The provider doesn't take enough time to explain what s/he's doing or why, or to answer my questions.	49.2 (32)	13.8 (9)	10.8 (7)	26.2 (17)
The provider isn't interested in me unless (I'm sick or injured).	43.1 (28)	23.1 (15)	15.4 (10)	18.5 (12)
I almost never see the same provider twice in a row when I make a visit.	29.2 (19)	16.9 (11)	12.3 (8)	41.5 (27)
There's no way to find out how to pick a good provider.	23.1 (15)	20.0 (13)	29.2 (19)	27.7 (18)

N=65

To what extent are Site Related items a barrier to active duty Army women seeking well woman examinations?

Characteristics of the healthcare system can affect whether or not active duty Army women seek well woman examinations. Items nine through 12 of the modified Barriers Scale measure the Site Related subscale. Certain characteristics of the health care system can affect whether or not active duty Army women seek well care. As described for Research Question Three, respondents were asked to indicate how much they believed specific items affected seeking a well woman examination. Scoring is the same as for the provider/consumer relationship subscale.

The mean subscale score was determined to be .57. As in the provider/consumer relationship subscale, mean score of 3 indicated a high level barrier, a mean score of 2 indicated a moderate barrier, a mean score of 1 indicated only a slight barrier and a mean score of 0 indicated that there was no barrier to seeking care. Table 8 provides the mean and standard deviation and Table 9 provides the percent and frequency of responses for the specific items pertaining to the site related subscale.

Table 8.

Mean and Standard Deviation (SD) by Item for the Site-Related Subscale

Items	Mean	SD
The wait is too long at the time of the appointment.	1.15	.96
The cost of transportation and/or parking is too high.	.40	.81
The office or clinical is too far away.	.51	.73
There's no transportation to the clinical or office.	.22	.54
N=65		

Table 9.

Percent and (Frequency) of Responses by Item for the Site Related Subscale

Items	None	Slightly	Moderately	Greatly
The wait is too long at the time of the appointment.	26.21(17)	44.6 (29)	16.9 (11)	12.3 (8)
The cost of transportation and/or parking is too high.	75.4 (49)	13.8 (9)	6.2 (4)	4.6 (3)
The office or clinical is too far away	63.1 (41)	23.1 (15)	13.8 (9)	0
There's no transportation to the clinical or office.	83.1 (54)	13.8 (9)	1.5 (1)	1.5 (1)
N=65				

Research Question Five

To what extent is fear a barrier to active duty Army women seeking well woman examinations?

Past experiences or personal preferences and needs can affect health seeking behaviors. Items 13 through 16, 19, 21, and 22 measure the Fear subscale of the modified Barriers Scale. As described for Research Question Three, respondents were

asked to indicate how much they believed specific items affected seeking a well woman examination. Scoring is the same as described in Research Question Three and Four.

The mean subscale score was determined to be .54. Table 10 provides the mean and standard deviation and Table 11 provides the percent and frequency of responses for the specific items related to the fear subscale.

Table 10.**Mean and Standard Deviation (SD) by Item for the Fear Subscale**

Items	Mean	SD
No one can take care of me like the provider I used to have.	.77	1.00
I don't like to have a breast examination.	.60	.90
I don't like to have a Pap smear (pelvic examination).	1.06	1.01
I don't like to be asked a lot of questions.	.46	.73
For some reason I am afraid of providers.	.17	.45
I'm afraid to find out if I have a serious gynecological problem.	.48	.69
I don't like providers.	.28	.63
N=65		

Table 11.**Percent and (Frequency) of Responses by Item for the Fear Subscale**

Items	None	Slightly	Moderately	Greatly
No one can take care of me like the provider I used to have.	53.8 (35)	24.6 (16)	12.3 (8)	9.2 (6)
I don't like to have a breast examination.	61.5 (40)	23.1 (15)	9.2 (6)	6.2 (4)
I don't like to have a Pap smear (pelvic examination).	36.9 (24)	30.8 (20)	21.5 (14)	10.8 (7)
I don't like to be asked a lot of questions.	64.6 (42)	27.7 (18)	4.6 (3)	3.1 (2)
For some reason I am afraid of providers	86.2 (56)	10.8 (7)	3.1 (2)	0
I'm afraid to find out if I have a serious gynecological problem.	61.5 (40)	30.8 (20)	6.2 (4)	1.5 (1)
I don't like providers.	80 (52)	13.8 (9)	4.6 (3)	1.5 (1)
N=65				

Research Question Six

To what extent is Inconvenience a barrier to active duty Army women seeking well woman examinations?

As in Research Question Five, past experience, personal preferences and needs can affect whether active duty Army women seek well woman examinations. Items 17, 18, 20, and 23 measure the Inconvenience subscale of the modified Barriers Scale. As described for Research Question Three, respondents were asked to indicate how much they believed specific items affected seeking a well woman examination. Scoring is the same as described in Research Question Three, Four, and Five. The mean subscale score

was determined to be .58. Table 12 provides the mean and standard deviation and Table 13 provides the percent and frequency of responses for items specific to the inconvenience subscale.

Table 12.

Mean and Standard Deviation (SD) by Item for the Inconvenience Subscale

Items	Mean	SD
Appointments (to have my well woman examination have to be scheduled too far ahead.	.98	1.07
Parking is inconvenient.	.62	.98
The provider doesn't think about inexpensive treatment.	.35	.72
It takes too long to travel to the office or clinic.	.40	.75

N=65

Table 13.

Percent and (Frequency) of Responses by Item for the Inconvenience Subscale

Items	None	Slightly	Moderately	Greatly
Appointments (to have my well woman examination) have to be scheduled too far ahead.	43.1 (28)	29.2 (19)	13.8 (9)	13.8 (9)
Parking is inconvenient.	64.8 (42)	18.5 (12)	7.7 (5)	9.2 (6)
The provider doesn't think about inexpensive treatment.	75.4 (49)	16.9 (11)	4.6 (3)	3.1 (2)
It takes too long to travel to the office or clinic.	72.3 (47)	18.5 (12)	6.2 (4)	3.1 (2)

N=65

Research Question Seven

To what extent are the combined items of the modified Barriers Scale a barrier to active

duty Army women seeking well woman examinations?

The modified Barriers Scale consists of four subscales: Provider/Consumer Relationship, Site Related Factors, Fear, and Inconvenience. The combined subscales provide information regarding the entire modified Barriers Scale. The mean score for the entire modified Barriers Scale was subscale score was determined to be .78. The Figure below summarizes the entire modified Barriers Scale.

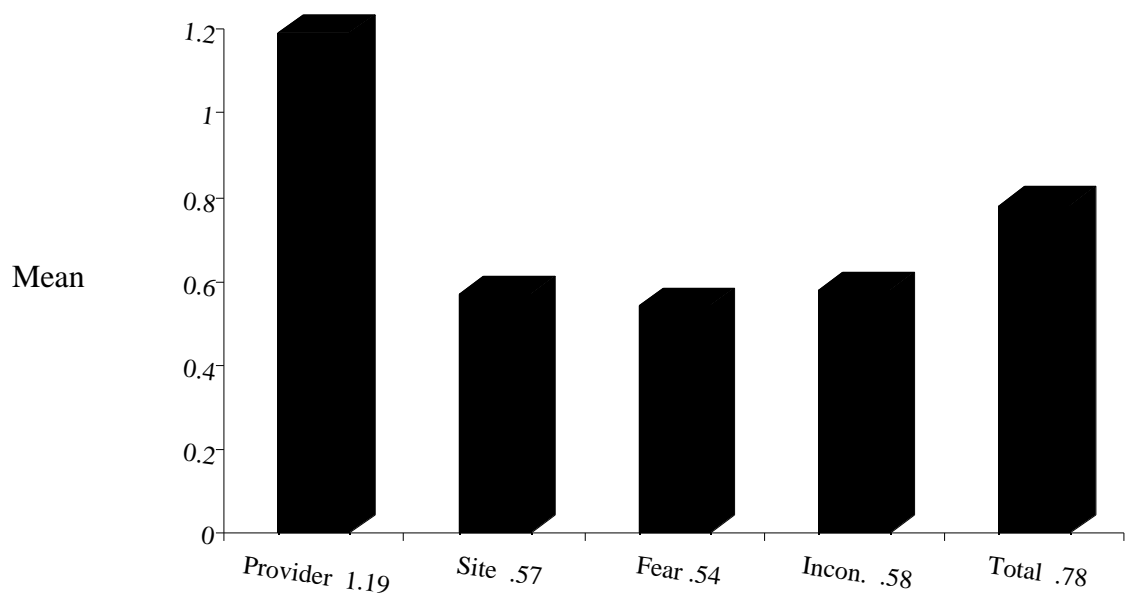


Figure.

Mean Score for Subscales and Entire Modified Barriers Scale

Research Question Eight

What is the active duty Army woman's intent to seek a well woman examination?

The clinical breast examination and Pap smear comprise the well woman examination. Army regulation sets forth the mandate for maintenance of such examinations, and active duty Army women are expected to comply annually with

regulatory guidelines. Research Question One demonstrated that of the sample group, 46 of 64 (71%) have had a clinical breast examination in the past 12 months, and that 50 (77%) have had a Pap smear. For this sample of active duty Army women, not all are maintaining well woman examination per regulation.

Demographic Question 11 determines short term intent by asking “If the answer to either or any part of the previous question (“Have you had a well woman examination that consisted of a clinical breast examination and Pap smear in the past twelve months?”) is “No,” “Do you have an appointment scheduled for a well woman examination in the next 30-60 days?” This takes into consideration any external constraints such as appointment availability. Demographic Question 12 asks “If the answer to either or any part of the previous question is “Yes” (Demographic Question 10 and 11), do you plan to schedule yearly well woman examinations?” The objective of this question was to determine the respondents’ intent to maintain well woman examinations. For Demographic Question 12 there was a high percentage of missing data. This was not typical for respondents’ completion of the other items on the questionnaire. Tables 14 through 17 summarize the responses to Demographic Questions 11 and 12.

Table 14.**Do You Have an Appointment Scheduled for a Well Woman Examination in the Next 30-60 Days (Clinical Breast Examination)**

Response	Percent (Frequency)
Yes	4.6 (3)
No	21.5 (14)
Not applicable	72.3 (47)
Missing Data	1.5 (1)

N=64

Table 15.**Do You Have an Appointment Scheduled for a Well Woman Examination in the Next 30-60 Days (Pap smear)**

Response	Percent (Frequency)
Yes	7.7 (5)
No	16.9 (11)
Not applicable	72.3 (47)
Missing Data	3.1 (2)

N=65

Table 16.**If the Answer to Either or Any Part of the Previous Question is Yes, Do You Plan to Schedule Yearly Well Woman Examinations (Clinical Breast Examination)**

Response	Percent (Frequency)
Yes	63.1 (41)
No	4.6 (3)
Not applicable	15.4 (10)
Missing Data	16.9 (11)

N=54

Table 17.**If the Answer to Either or Any Part of the Previous Question is Yes, Do You Plan to Schedule Yearly Well Woman Examinations (Pap smear)**

Response	Percent (Frequency)
Yes	69.2 (45)
No	1.5 (1)
Not applicable	15.4 (10)
Missing Data	13.8 (9)

N=56

Summary

This chapter presented the compilation of data collected from questionnaires distributed to 65 active duty Army women attending a Birth Month Annual Review (BMAR) training session at an Army medical facility in the North East. The intent was to gather information about a unique population, identify perceived barriers to well woman examinations, and adherence to Army regulation related to such examinations. In addition, the intent to maintain these examinations was explored. The eight research

questions provided the structure for the data analysis, and will guide the discussion for conclusions and recommendations that will be presented in Chapter V.

CHAPTER V: SUMMARY: CONCLUSIONS AND RECOMMENDATIONS

What sculpture is to a block of marble, education is to the soul (Joseph Addison, 1711, p.1).

Introduction

The success of the mission of the United States Army depends on a healthy fighting force. For active duty Army women, regulation mandates annual clinical breast examination and cervical cancer screening as part of preventive health screening. Despite the regulation, some active duty Army women are not seeking this care. The purpose of this study was to examine and describe a phenomenon for a population in which there is no published research. In addition, active duty Army women's adherence to Army regulation related to well woman examinations and perceived barriers to such examinations were examined.

A descriptive design was used to identify characteristics of the population and perceived barriers to seeking well woman examinations. Perceived barriers were identified through the use of the barriers construct of the Health Belief Model (Becker, 1974). Chapter V presents a summary of the research findings, conclusions, implications for nursing practice, education, and research. Additionally, recommendations for further research are presented. Limitations to the study are also noted.

Discussion of Research Question One

To What Extent Do Active Duty Army Women Obtain Well Woman Care?

There is no published research specifically related to active duty Army women seeking well woman examinations but there are studies that describe the health seeking behaviors of other groups of women. Kowalski and Brown (1994) reported in their study

that despite the success of cancer detection screening tests for breast and cervical cancer, women do not regularly seek care. In 1996, one half of the women diagnosed with cervical cancer never had a Pap smear, and of the remaining women, 10% had not had a Pap smear in the past five years (NIH, 1996). Blair's (1998) study revealed that only one third of the sample agreed to receive clinical breast examination or mammography. Seventy one percent of active duty Army women in this sample reported having a clinical breast examination in the past 12 months.

Data analysis of results documented in Tables 2 and 3 revealed that there is not consistent compliance among this sample group with the requirement for an "annual clinical breast examination and Pap smear for all active duty Army women regardless of age" (Department of the Army, 1998, p.56). Only 71% reported having a clinical breast examination in the past 12 months, and only 77% reported having had a Pap smear. However, this compliance is better than what is found in civilian counterparts. Analysis of Table 4 revealed that a significant percentage of the respondents (65%, n=42) believed that there was no regulation for well woman care, or did not know if there was a regulation for well woman examinations. Neilson and Jones (1998) reported that 40% of their sample had no knowledge of cervical cancer and 67% were unaware of preventive measure that could be used.

Analysis of Table 5 revealed that 49% (n=65) of the respondents sought well woman care because military regulation requires such examinations. Analysis of Demographic Question nine and 13 revealed inconsistency in responses. This researcher anticipated similar data for questions related to military regulation for individual respondents, but this was not the case for this sample.

From the data analysis, it is this researcher's conclusion that although all of the women in the sample group do not seek well woman care, a significant number do not know that they are required to do so. If the active duty Army woman is expected to comply with regulation, there must be measures in place to ensure knowledge of the regulatory guidelines. In addition, there must be a mechanism in place that is consistent from Army installation to Army installation to monitor compliance.

Discussion of Research Question Two

What is the Reason that Active Duty Army Women Receive Well Woman Care?

Health beliefs of individuals contribute to a person's decision to take action or not to take action related to health care. Ideas about health maintenance and disease prevention impact on screening programs (Neilson & Jones, 1998). Burak and Meyer (1997) concluded in their study however that individual beliefs provide important information, but can not always explain screening behaviors. Army regulation mandates annual breast and cervical cancer screening for all active duty Army women.

Compliance is the responsibility of the individual soldier and is expected (Department of the Army, 1998) regardless of health beliefs.

There was a wide range of responses to the reasons that the sample group sought well woman care as evidenced by the results documented in Table 5. Analysis of multiple answers revealed that only 9% (n=65) of the respondents reported seeking care based solely on military requirement. Thirty one percent reported seeking care for a variety of reasons including military regulation. The remaining responses included all other choices except military regulation; further evidence that for this sample group care is not sought based only on regulatory guidelines.

It is this researchers conclusion that multiple factors direct the seeking of well woman care for this sample of women. Further study needs to be done to determine if regulatory requirements alone supersede perceived barriers to seeking such examinations.

Discussion of Research Question Three

To What Extent are Provider/Consumer Relationships a Barrier to Active Duty Army Women Seeking Well Woman Examinations?

Data analysis of Tables 6 and 7 show that for this sample group, provider/consumer relationship items were identified to be a slight barrier to seeking well woman examinations. Evaluation of individual responses revealed that there were two items in this subscale that were scored higher than in other scales. "I almost never see the same provider twice in a row when I make a visit" had a mean score of 1.66 with a standard deviation of 1.29. "There's no way to find out how to pick a good provider" resulted in a mean score of 1.62, with a standard deviation of 1.13. Blair (1998) noted failure to have an examination was related to accessibility and provider gender.

These items may be a reflection of not only provider/consumer relationships, but also the health care environment where the sample group receives their care. Providers enter and leave the health care system based on mission requirements and assignment time frames. Further study is needed to determine if the barriers identified prevent the sample group from seeking care, and if the barrier score was different based on who provided most of the respondents' health care.

Discussion of Research Question Four

To What Extent are Site Related Items a Barrier to Active Duty Army Women Seeking Well Woman Examinations?

Analysis of Tables 8 and 9 summarizes specific items pertaining to site related factors. This subscale was not identified by this sample group as a barrier to seeking well woman care. The item “The wait is too long at the time of the appointment” was scored higher among the respondents; the mean was 1.15 and standard deviation was .96. This is important as this item may impact not only on seeking health care, but also can result in leaving the clinic without being examined. Blair (1998) noted that accessibility was a barrier to follow through with breast cancer screening.

The items in this subscale have to do with characteristics of the health care system. Further research needs to be done to examine the impact of the items in this subscale on seeking care. Although this subscale was not identified as a barrier to seeking care for this sample group, long waiting time for appointments has the potential for impacting on mission. It would be beneficial to determine if the item identified in the previous paragraph is a factor unique to the health care facility in which the sample group received their care.

Discussion of Research Question Five

To What Extent is Fear a Barrier to Active Duty Army Women Seeking Well Woman Examinations?

Barrier studies identify fear as a significant barrier to seeking well woman examinations. Fear has been defined as fear of embarrassment, pain, and finding something wrong. Fear was also identified as a major factor for non-attendance at cancer

screening programs (Neilson & Jones, 1998). Tables 10 and 11 summarize the items related to fear factors, and reveal that for this sample group, fear is not a barrier to seeking well woman examinations. One item “I don’t like to have a Pap smear (pelvic examination)” mean was 1.06 and standard deviation 1.01. Burak and Meyer (1997) noted that barriers regarding fear were due to pain and embarrassment. Neilson and Jones (1998) identified fear and dislike to the examination as a barrier to Pap smears.

Knowledge of fear factors in individuals is critical to minimize the impact on seeking well woman examinations. Although this sample group did not rate fear as a barrier to seeking care, it is identified in research as a major factor for avoidance of preventive health screening among other populations of women.

Discussion of Research Question Six

To What Extent is Inconvenience a Barrier to Active Duty Army Women Seeking Well Woman Examinations?

Past experience and personal needs can impact on seeking health care. Logistical issues (arrangements) are identified as barriers to cancer screening programs (Neilson & Jones, 1998). Inconvenience factors include those items that can impact on seeking well woman care. Tables 12 and 13 reveal that Inconvenience items were not a barrier for this sample group related to seeking well woman care. One item “Appointments (to have my well woman examination) have to be scheduled too far in ahead” mean was .98 and the standard deviation was 1.07. This finding was similar to what was found in the site related items. Blair (1998) identified accessibility as a barrier to gynecologic cancer screening.

Additional research needs to be done to compare these subscales to determine the

impact of the health care delivery system on perception of inconvenience. A comparison should be made between civilian and military health care system. Significant barriers in these areas could direct how women seek well woman examinations.

Discussion of Research Question Seven

To What Extent are the Combined Items of the Modified Barriers Scale a Barrier to Active Duty Army Women Seeking Well Woman Examinations?

The Health Belief Model (Becker, 1974) has constructs that are used to determine individual behavior and interventions that can be used for disease prevention (Leddy & Pepper, 1998). Rosenstock (1966) defined barriers as the things that impact an individual seeking health care, and studies have demonstrated that barriers can explain or predict health prevention behaviors (Leddy & Pepper, 1998). Neilson and Jones (1998) identified categories of barriers to include emotional (fear), economic (time/money), logistical (arrangement) and social (blaming others).

Data analysis of the total modified Barriers Scale included examination of subscales that included provider/consumer relationship, site related items, fear and inconvenience. Evaluation revealed that the combined items of the modified Barriers Scale are not barriers to seeking well woman examinations. There are specific items in each of the subscales that are identified by this sample group as slight barriers.

The results indicate that in order to have insight into compliance with annual well woman examinations for this sample group, further research needs to be done. The compliance for the sample group with annual clinical breast examination and Pap smears can not be explained by perceived barriers alone. Further study is needed to examine the relationship between the responses of the sample group about compliance related to well

woman examinations, and the barriers that were identified. The Barriers Scale, although modified, may not meet the needs of this sample group.

Discussion of Research Question Eight

What is the Active Duty Army Woman's Intent to Seek a Well Woman Examination?

The clinical breast examination and Pap smear are required annually for all women on active duty in the Army (Department of the Army, 1998). The expectation is that all women will comply all of the time. As previously described for this sample, 71% have had a clinical breast examination and 77% have had a Pap smear in the past 12 months. Intent to seek examinations in the short and long term was compiled from data provided in Tables 14 through 17.

Respondents who indicated that they had not had a clinical breast examination or Pap smear in the previous 12 months were asked if they had such an appointment scheduled in the next 30 to 60 days. Twenty two percent of those who had not had a clinical breast examination did not have an appointment scheduled, and 17% did not have a Pap smear scheduled. This was an important finding as regulatory guidelines mandate such examinations. Approximately five percent or three respondents indicated that they did not plan to schedule annual clinical breast examination and one, or 1%, reported no plan to schedule an annual Pap smear. It is important to note that there was an increased amount of missing data, a trend not seen with other items on the questionnaire. For this sample group, intent to seek examinations is difficult to assess with accuracy due to the data distribution. The impact of the missing data could be significant; it may be the result of the wording of Demographic Question 11 and 12, or an explanation for compliance for this sample group. Further study needs to be done using this demographic question for

data for intent to seek care.

Conclusions

This study has provided an opportunity to describe a population that has no published research. In addition the population was described related to adherence to regulation of well woman examinations and perceived barriers to seeking such care. For the sample group in this study, there was not consistent compliance with maintenance of clinical breast examination and Pap smears. In addition this sample group did not consistently intend to comply “with in the in the next 30-60 days” (if no examinations in the past 12 months), or to seek annual well woman examinations. Barriers to seeking well woman examinations were identified in only one subscale: provider/consumer relationships. However, active duty Army women in this sample tend to be more compliant with well woman examinations than their civilian counterparts. Compliance in this sample group is not explained by identification of perceived barriers.

The findings have implications for nursing practice, education, and support the need for additional research. Breast and cervical cancer continue to be two of the most common forms of cancer that women face (ACS, 1999a). The clinical breast examination and Pap smear comprise preventive health care examinations for women, and are effective in the detection of cancer (Mannino, 1998; Vickery & Fries, 1996). Failure to maintain the examinations can result in personal loss, suffering, and for the active duty Army woman, mission degradation. The well woman examination is necessary to assist women to maintain health. Barriers to seeking such examinations must be identified to minimize the likelihood that such examinations will be avoided. This can be done as part of a preventive health survey.

The interplay of Army regulatory guidelines for and knowledge of barriers to such examinations must be studied. Active duty Army women must be educated that the regulation exists. Equally important is the impact of the examinations for health maintenance and disease prevention. Services should be provided for women considering availability and accessibility to appointments, and the ability to choose and continue with the same provider when possible. This may improve adherence to regulatory guidelines.

Further research should include interview or questionnaires specifically for the providers of women's health care. Questions should include what education is provided to active duty Army women related to regulation, and well woman examinations. Barriers to such examinations need to be explored as well as the responsibility of the provider, the managers of the health care system, and the individual for maintaining such care. The study should be conducted with a larger sample size to determine if the findings are unique to the population studied, or an Army wide phenomenon. There may be other factors not elicited in the questionnaire that may contribute to non-adherence to guidelines so research should continue to study other factors that may affect adherence to regulation. In addition the study should be repeated using a qualitative methodology.

Limitations

There were a number of limitations identified for this study. First, the use of a convenience sample limited generalization of the data to all women on active duty. The sample was obtained at an Army medical treatment facility in the North East, a facility that conducts numerous research projects. Questionnaires were distributed to personnel attending a mandatory Birth Month Annual Review (BMAR) training session. This session was the site for many data collection efforts at the institution, and some active

duty Army women declined to volunteer; many reported that they has “already completed” the questionnaire. In addition, the sample group’s duty assignment was a medical treatment facility. This could impact on health seeking behaviors, as personnel in the medical field may be more likely to seek care in accordance with regulatory guidelines despite perceived barriers.

The sample size may also be a limitation. According to Burns and Grove (1997) in descriptive studies that use a survey, a large sample is often needed because multiple variables can influence the respondent’s answers. However, for this study there a trend of responses noted with each completed questionnaire; similar responses were identified for maintenance of well woman examinations and for specific barrier items. This prompted the decision to stop data collection. As a result, 68 questionnaires were completed, and 65 met all of the inclusion criteria.

The use of a survey may also be a limitation for the study. Data for maintenance of well woman examinations was obtained from a list of items on a questionnaire. There was missing data for some of the items, and it was not possible to determine the reason for the missing information. There was no way to validate respondents’ information; two items related to military regulation should have resulted in similar data and did not. Two items resulted in missing data that may have skewed the interpretation of the results. This may have been a result of misunderstanding of the item or sensitivity to the item but the reason for the missing data could not be determined.

Only one construct of the HBM (Melnik, 1990) was used for this study, and this may have affected the data. The barriers construct may not have adequately addresses the reasons for non-compliance, it may be that other constructs would reveal more for

this population.

Summary

The sample group for this study does not seek well woman examinations consistently. In addition, Provider/Consumer Relationships were a slight barrier to seeking examinations. The remaining subscales were not identified as a barrier to well woman examinations. This has implications for further study, as the sample group is only representative of a small percentage of active duty Army women. This study needs to be conducted to include all active duty Army women. Only then can the data be generalized and expanded to determine common factors, strategies initiated to ensure compliance with Army regulation, and barriers minimized for active duty Army women seeking well woman care. The ultimate outcome is preventive health for the individual, mission readiness, and a healthy fighting force.

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APPENDICES

APPENDIX A: Modified Barriers Scale

APPENDIX B: Permission to Use and Adapt the Barriers Scale

APPENDIX C: IRB Approval

APPENDIX D: Approval to Distribute Questionnaire

APPENDIX A

Research Study on Health beliefs of Active Duty Army Woman: Barriers to Well Woman Examination

Introduction

You are being asked to participate in an research study that is seeking information on the health beliefs of active duty Army women related to well woman examination. This briefing will provide you with information about the study, possible risks and benefits of participation , and confidentiality for participants. Your decision to participate in this study is voluntary and you may withdraw from the study at any time in the process.

Description of the Study

The departments of Nursing Research, and Family Nurse Practitioner in the Graduate School of Nursing at the Uniformed Services University of the Health Sciences and CPT (P) Kathleen M. Herberger are conducting a research study to describe the health beliefs of active duty Army women related to well woman examinations. There will be at least 150 participants in the study, and each will answer items in a questionnaire regarding health beliefs related to well woman examinations. The questionnaire takes less than 30 minutes to complete, and the data will be evaluated based on participants' responses.

Risks and Benefits

As a participant you will not receive any monetary compensation. There are no risks associated with participation and no direct benefits.

Privacy and Confidentiality

There is no identifying information on the questionnaire thus assuring confidentiality for participants. The researcher will be collecting the completed questionnaires in sealed envelopes, to be opened only by the researcher. The questionnaires will be coded by number only, and data compiled from the questionnaires. The results from data collection will be submitted to the Graduate School of Nursing, Uniformed Services University of the Health Sciences, as a written thesis. Interpreted data will be submitted to the author of the data collection tool as part of the agreement between the researcher and the author for use of the tool. The study may be replicated in the future in the Army or in any of the other uniformed services.

Health Beliefs of Active Duty Army Women

1. Rank (CIRCLE ONE): E1 01 W1
 E2 02 CW2
 E3 03 CW3
 E4 04 CW4
 E5 05 CW5
 E6 06
 E7 07
 E8 08
 E9 09

2. Age in years: _____

3. Branch of Service: Army
 Air Force
 Navy
 Marines

4. Years in Service (ACTIVE DUTY ONLY): _____

5. Ethnicity (CIRCLE ONE): White/Caucasian
 Black/African American
 Hispanic
 Asian
 Native American
 Other (please list): _____

6. Highest Degree/Education Obtained(CIRCLE ONLY ONE):
 GED or equivalent
 High school
 Associate degree
 Bachelors degree
 Masters degree
 Doctorate
 other professional degree (M.D., D.D.S., J.D.,
 D.P.M. etc.)

7. Have you been deployed to a remote area in the last 12 months? (CIRCLE ONE)
 Yes
 No

8. Are you currently pregnant? Yes No

9. What is the reason that you seek well woman care? (CIRCLE ALL THAT APPLY):

- Problems with breast?
- Problems with female organs?
- Birth Control Pills?
- Birth Control other than pills?
- No problem with breasts, only routine early detection examination?
- No problem with female organs, only routine early detection examination?
- Military regulation requires a regular check up?
- Other (please list)

10. Have you had a well woman examination that consisted of a clinical breast examination and Pap smear in the past twelve months?

- | | | |
|-----------------------------|-----|----|
| Clinical breast examination | Yes | No |
| Pap smear | Yes | No |

11. If the answer to either or any part of the previous question is **no**, do you have an appointment scheduled for a well woman examination (clinical breast examination and Pap smear) in the next 30-60 days?

- | | | |
|-----------------------------|-----|----|
| Clinical breast examination | Yes | No |
| Pap smear | Yes | No |

12. If the answer to either or any part of the previous question is **yes**, do you plan to schedule yearly well woman examinations?

- | | | |
|-----------------------------|-----|----|
| Clinical breast examination | Yes | No |
| Pap smear | Yes | No |

13. Who or which provider provides **most** of your Women's Health Care related to well woman examinations (clinical breast examinations and Pap smear)? (CIRCLE ONLY ONE):

Physician Nurse practitioner Physician Assistant (PA) Nurse Midwife
Intern/resident Other (LIST): _____

13. Answer "true", "false", or "I don't know" to the following statement: (CIRCLE ONLY ONE ANSWER)

There is an Army Regulation that states that all active duty Army women will have yearly clinical breast examinations and Pap smears.

True False I don't know

BARRIERS SCALE

The relationships people have with their provider* can affect whether or not they get the preventive care they need, such as having a well woman examination (clinical breast examination and Pap smear). Please indicate how much you think each of the following characteristics of your relationship with your *provider* affects getting your well woman examination (clinical breast examination and Pap smear), and try not to skip any item. **Circle the word** you select as your answer.

1. The provider may not think my problems are real or important	GREATLY	MODERATELY	SLIGHTLY	NONE
2. The provider (and his/her staff) is/are sometime impatient and critical and act like s/he/they know everything	GREATLY	MODERATELY	SLIGHTLY	NONE
3. I don't think I have a good provider	GREATLY	MODERATELY	SLIGHTLY	NONE
4. The provider (and his/her staff) isn't/aren't interested in my worries about my gynecologic health	GREATLY	MODERATELY	SLIGHTLY	NONE
5. The provider doesn't take enough time to explain what s/he's doing or why, or to answer my questions	GREATLY	MODERATELY	SLIGHTLY	NONE
6. The provider isn't interested in me unless (I'm sick or injured)	GREATLY	MODERATELY	SLIGHTLY	NONE
7. I almost never see the same provider twice in a row when I make a visit	GREATLY	MODERATELY	SLIGHTLY	NONE
8. There's no way to find out how to pick a good provider	GREATLY	MODERATELY	SLIGHTLY	NONE

*Provider includes Nurse Practitioner, Doctor (physician), Physician Assistant (PA), Nurse Midwife, Intern/resident

Certain characteristics of the health care system can affect whether or not people get the preventive care they need, such as a well woman examination (clinical breast examination and Pap smear). Please indicate how much you think each of the following characteristics of the health care system affects getting your well woman examination. Try not to skip any item. **Circle the word** you select as your answer.

9. The wait is too long at the time of the appointment	GREATLY	MODERATELY	SLIGHTLY	NONE
10. The cost of transportation and/or parking is too high	GREATLY	MODERATELY	SLIGHTLY	NONE
11. The office or clinic is too far away	GREATLY	MODERATELY	SLIGHTLY	NONE
12. There's no transportation to the office or clinic	GREATLY	MODERATELY	SLIGHTLY	NONE

*Provider includes Nurse Practitioner, Doctor (physician), Physician Assistant (PA), Nurse Midwife,
Intern/resident

People's past experience or personal preferences and needs can affect whether or not they get preventive care they need such as a well woman examination (clinical breast examination and Pap smear). Please indicate how much you think each of the following circumstances affects getting your well woman examination and try not to skip any item. **Circle the word** you select as your answer.

13. No one can take care of me like the provider I used to have	GREATLY	MODERATELY	SLIGHTLY	NONE
14. I don't like to have a breast examination	GREATLY	MODERATELY	SLIGHTLY	NONE
15. I don't like to have a Pap smear (pelvic examination)	GREATLY	MODERATELY	SLIGHTLY	NONE
16. I don't like to be asked a lot of questions	GREATLY	MODERATELY	SLIGHTLY	NONE
17. Appointments (to have my well woman examinations) have to be scheduled too far ahead	GREATLY	MODERATELY	SLIGHTLY	NONE
18. Parking is inconvenient	GREATLY	MODERATELY	SLIGHTLY	NONE
19. For some reason I am afraid of providers	GREATLY	MODERATELY	SLIGHTLY	NONE
20. The provider doesn't think about inexpensive treatment	GREATLY	MODERATELY	SLIGHTLY	NONE
21. I'm afraid to find out if I have a serious gynecological problem	GREATLY	MODERATELY	SLIGHTLY	NONE
22. I don't like Providers	GREATLY	MODERATELY	SLIGHTLY	NONE
	GREATLY	MODERATELY	SLIGHTLY	NONE

23. It takes too
long to travel to
the office or clinic

*Provider includes Nurse Practitioner, Doctor (physician), Physician Assistant (PA), Nurse
Midwife, Intern/resident

APPENDIX B

The
Rochester
Eating
Disorder
Interest ALLIANCE, L.L.P.

Mary Ellen Webb • M.S., R.N., C.S., N.P.P.
Kay A. McCulloch Melnyk • Ph.D., R.N., C.S., N.P.P.
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July 16, 1999

Captain Kathleen M. Herberger, R.N.
Uniformed Services University of the Health Sciences
4301 Jones Bridge Road
Bethesda, Maryland 20814-4799

Dear Captain Herberger:

I am pleased to grant you permission to use the adapted Barriers Scale in your proposed study, "Health Beliefs of Active Duty Army Women."

Enclosed is a second brief questionnaire, which I ask that you complete and return to me at the completion of the study, in exchange for permission to use the Barriers Scale. The information you provide will assist me to evaluate the usefulness and the validity and reliability of the instrument.

I hope your research project goes well, and I look forward to your findings.

Sincerely,



Kay Ann McCulloch Melnyk, Ph.D., R.N., C.S., N.P.P.

Enclosure
KAMM/dlh

APPENDIX C



UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES
F. EDWARD HEBERT SCHOOL OF MEDICINE
4301 JONES BRIDGE ROAD
BETHESDA, MARYLAND 20814-4799



June 28, 1999

MEMORANDUM FOR KATHLEEN M. HERBERGER, MSN, GRADUATE SCHOOL OF
NURSING

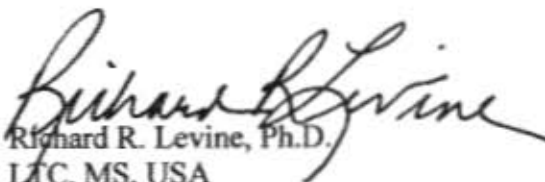
SUBJECT: IRB Approval of Protocol T061AO-01 for Human Subject Use

Your research protocol entitled "*Health Beliefs of Active Duty Women: Barriers to Well Woman Examinations*," was reviewed and approved for execution on 6/28/99 as an exempt human subject use study under the provisions of 32 CFR 219.101 (b)(2). This approval will be reported to the full IRB scheduled to meet on 8 July 1999.

The purpose of this study is to identify active duty Army women's perceptions of barriers to seeking well woman examinations. Anonymous questionnaires will be distributed to 150 active duty Army women. The IRB understands that this questionnaire will be used to determine the extent to which active duty Army women seek the examinations, the reasons the exams are sought, perceived barriers to seeking and the intent to seek a well woman exam. No identifying information will be collected as part of this study.

Additionally, because a portion of this study is being conducted at WRAMC, please note that you are required to obtain approval for this study from the WRAMC IRB as well. Once this study has been approved by the WRAMC IRB, please provide this office with a copy of your WRAMC IRB approval letter to complete our files.

Please notify this office of any amendments you wish to propose and of any untoward incidents which may occur in the conduct of this project. If you have any questions regarding human volunteers, please call me at 301-295-3303.


Richard R. Levine, Ph.D.
LTC, MS, USA
Director, Research Programs and
Executive Secretary, IRB

Cc: Director, Grants Administration



APPENDIX D

REPLY TO
ATTENTION OF:DEPARTMENT OF THE ARMY
WALTER REED ARMY MEDICAL CENTER
WASHINGTON, DC 20307-5001

MCHL-CI

2 August 1999

MEMORANDUM FOR LTC Janice B. Agazio, AN, Nursing Research Service,
Department of Nursing, Walter Reed Army Medical Center,
Washington, DC 20307-5001

SUBJECT: Proposed Clinical Investigation Research Protocol - Exempt from Review

1. Your protocol entitled "Health Beliefs of Active Duty Women: Barriers to Well Women Examinations" was received in this department on 21 July 1999 and a revision was received on 27 July 1999. This protocol has been reviewed by MAJ R. Michael Tuttle, MC, Asst Chief, Department of Clinical Investigation and the undersigned.
2. Per Army Regulation 40-38, Clinical Investigation Program, Appendix B, paragraph B-5, and WRAMC Regulation 70-1, Clinical Investigation Program, WRAMC Research Activities, the research outlined in the proposed protocol meets the criteria for a study in Public Behavior and is exempt from further review by WRAMC Clinical Investigation Committee and/or Human Use Committee.
3. Your research protocol has been assigned Work Unit #75009E99. It will be reported as exempt to the Human Use Committee (HUC) on 24 August 1999. You may begin the study upon receipt of this letter for a survey of up to 250 active duty women. Please be reminded that any subject's personal identification needs to be coded during the data collection in order to protect their privacy and any indirect linkage must be destroyed after data collection is complete.
4. No funding was requested from DCI. Per exempt guidelines no other resources, such as supplies or statistical and computer support, are available.
5. If you have any questions, the POC is Vicki Miskovksy at (202) 782-7833.

Audrey S. Chang
AUDREY S. CHANG.
Ph.D., DAC
Chief, Research Review Service
Co-Chairperson, Human Use Committee

cf: Chief, Research Administration Service