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A Study to Determine Why Some Women Age Fifty and Over Choose Not to Have Frequent Papanicolaou Tests

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A STUDY TO DETERMINE WHY SOME WOMEN AGE FIFTY AND OVER CHOOSE NOT TO HAVE FREQUENT PAPANICOLAOU TESTS

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ABSTRACT

A STUDY TO DETERMINE WHY SOME WOMEN AGE FIFTY AND OVER CHOOSE NOT TO HAVE FREQUENT PAPANICOLAOU TESTS

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This discriptive study used the Health Belief Model to examine the benefits, barriers, and action cues to obtaining Papanicolaou tests perceived by women age 50 and older. A convenience sample of 48 women were interviewed. Comparisons were made between those who obtained Papanicolaou tests at least every three years (n = 24) and those who did not (n = 24). .

One cue to action and four perceived benefits were found to be important influences. Women who had received Papanicolaou tests less frequently than every three years agreed that certain barriers had influenced their decisions more than women who had received Papanicolaou tests at least every three years. In addition, women who had obtained Papanicolaou tests less frequently perceived less influence from certain benefits. Women age 65 and older more frequently identified certain barriers as having influenced their decisions than women under 65.

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CHAPTER 1

INTRODUCTION

There are many women over age 50 of all races and socioeconomic status who do not have frequent Papanicolaou tests performed. There has been limited research regarding older women having frequent Papanicolaou tests. In fact, many women age 50 and older have not had a Papanicolaou test since their last child was born.

Significance of the Problem

Cervical cancer remains a problem in the United States. According to Herrero (1996), "cervical cancer is the second most common cancer among women worldwide, with an estimated 471,000 new cases diagnosed and 213,000 deaths occurring in 1990"(p. 1). In addition, Herrero states (1996), "cervical cancer is the seventh most common cancer among women in the United States" (p. 2). Cervical cancer, as reported by the National Institutes of Health Consensus Development Panel (NIHCDP) "is one of the most common cancers in women and accounts for 15,000 new cases (6% of all cancers) and 4,900 deaths in the United States each year" (1996, p. vii). The Cervical Cancer Advisory Committee (1988) states that in the United States invasive cervical cancer occurs more often in women 65-years-old and older. Forty to fifty percent of all deaths due to invasive cervical cancers occur in women in this age group.

According to Eyster, Spivak, and Deguire (1995), cervical cancer was the third leading cancer in women in Michigan ages 25 to 34 in 1994. Cervical cancer was the

fourth leading cancer in white women between the ages of 25 and 44, and in black women between the ages of 15 and 44. Although the incidence of cervical cancer is less in women 45 years and older, the death rate is higher. There were 143 deaths to Michigan women caused by cervical cancer in 1994. Survival rates for cervical cancer are 68.9%. If the cancer is localized, the survival rate is 91.3%.

Most cervical cancers grow slowly. Precancerous cells and cancer can be identified via Papanicolaou tests. NIHCDP (1996), states "the majority of squamous cell cancers of the cervix progress through a series of well-defined preinvasive lesions and that, during this usually lengthy process, the disease can be easily detected by Pap smear screening" (p. vii).

The Papanicolaou test has a false negative rate of 10% to 30% according to Merrill, Gusberg, Deppe, and Stafl (1982). Brown (1996) states,

> Cervical cancer might be described as an ideal disease for which to implement mass population-based screening. A prolonged asymptomatic phase permits early detection of preinvasive disease that is potentially 100% curable, making invasive cervical cancer theoretically a completely preventable disease. The screening test (Pap smear) is simple and risk free and has acceptable levels of sensitivity and specificity. Papanicolaou tests less frequent than annually increase a woman's risk of cervical cancer due to the false negative rate. In the United States women are very mobile and many do not return for follow-up Papanicolaou tests as they are advised (p. 7).

According to NIHCDP, (1996), "During the last 50 years in the United States, the utilization of screening programs based on the Papanicolaou (Pap) smear and pelvic

examination has led to a steep decline in incidence of and deaths from cervical cancer" (p. vii). If we decrease the frequency of Papanicolaou testing, we may cause a decrease in diagnosis of precancerous cells. This could cause the cancer to be diagnosed at a later stage, which would involve more invasive treatment. Advanced cervical cancer could cause death.

Morrison (1990), states "although most of the cases of cervical cancer occur among younger women, approximately half of all the deaths (56%) occur among women 65 years and older" (p. 32). Older women are more likely not to have frequent Papanicolaou tests and are diagnosed later with cervical cancer. According to Herrero (1996, p. 3), cervical cancer "cases are diagnosed at more advanced stages among older women than among younger women and among black women than among white women."

Older persons are not valued and respected in the United States. Bernhard and Sheppard (1992), state that older women, in particular, are not respected and valued in the United Sates and some other societies. Edelman and Mandle (1994), state "American culture still values women in part for their youth, beauty and childbearing ability" (p. 629). It may be difficult for society to recognize what is special about middle-aged women. This could affect medical care. Clancy and Massion (1992) found that after the childbearing years were completed, internists and general practitioners were less likely than gynecologists to offer Papanicolaou tests to women. It was also found that many women who had recently had a medical visit did not receive a Papanicolaou test although it was indicated. This was even more likely if the woman was poor. According to White (1995), prejudices exist concerning the provision of medical care for the older person.

Stereotypes reflect an emphasis placed on calendar age rather than on physical, mental and social abilities. Women, in particular, suffer the effects of 'ageism' in relation to preventive medicine.

Women, according to Legato (1995), "make two-thirds of health care decisions, undergo 63% of adult surgery, fill 60% to 80% of U.S. hospital beds and make up 52% of the population" (p. 38). Despite these facts, there have been fewer studies of women's health care needs and less funding for research in this area than for their male counterparts. To reverse this deficit, the National Institutes of Health will now only fund research projects that include both males and females. Women's health has become more of a priority.

Women's health after age 50 should be a priority for nursing research as well, because it represents a major current future health care need for a growing population segment. Nursing has an opportunity to contribute to the resolution of the problem of older women not having frequent screening for cervical cancer. By increasing the utilization of frequent Papanicolaou tests for women age 50 and older, cancers could be detected earlier. Early detection of cervical cancer would decrease health care costs by preventing extensive surgeries and treatment. Treatment would be more effective, less expensive, and less traumatic for the patient.

What affects an older woman's decisions regarding frequent Papanicolaou tests has been addressed in previous studies (Burnett, Steakley, & Tefft, 1995; Hoeman, Ku, & Ohl, 1996; Lacey, Phillips, Ansell, Whitman, Ebie, & Chen, 1989; White, 1995). Identified barriers to women age 50 and older having frequent Papanicolaou tests included fear, embarrassment, socioeconomic barriers, lack of education and/or

knowledge, and lack of physician recommendation.

It is important to identify what women age 50 and older perceive as barriers to obtaining Papanicolaou tests. When barriers are identified, we may be able to remove them by incorporating handicap free modifications, transportation, or other changes to assist women to overcome them. It is important to identify what women age 50 and older perceive as benefits to obtaining Papanicolaou tests. Perceived benefits could then be incorporated into programs developed to promote screening. Cues to action that prompt women age 50 and older to have Papanicolaou tests, including recommendation by health care provider and influence of significant others, need to be identified. Health care providers could then incorporate recommendation of frequent Papanicolaou tests during all clinic visits. Information regarding the importance of urging your family members and friends to have frequent Papanicolaou tests could be encouraged in teaching materials and in the media.

This study examined perceived benefits of and barriers to having Papanicolaou tests specifically including: (a) fear, (b) cost, (c) embarrassment, (d) lack of education regarding the importance of frequent Papanicolaou tests to detect cervical cancer, (e) lack of transportation, and (f) inability to access care due to disability were examined. Cues to action including health care provider recommendation and influence of significant others were also examined.

Purpose of the Study

The purpose of this study was to describe the reasons women age 50 and older gave for obtaining or not obtaining frequent Papanicolaou tests and to examine their perceptions of barriers, cues to action, and benefits of having the test. These variables

were examined for differences between women who do and do not obtain frequent Papanicolaou tests.

CHAPTER 2

CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

Conceptual Framework

The Health Belief Model was the organizing framework of this study. Over the past 40 years, the Health Belief Model has been successfully used and tested in explaining preventive health behavior, including utilization of health screening programs. According to Maiman and Becker (1974), the Health Belief Model is a psychosociological theory that was developed in the 1950s due to certain needs for research in public health. The Health Belief Model was used to study health behavior and to predict use of health screening programs.

Maiman and Becker (1974) describe the Health Belief Model as having two components. One is a person's perception of vulnerability to a condition and its seriousness. The other is perception of value to the individual taking part in a health action. This benefit is "weighed against his perceptions of psychological and other 'barriers' or 'costs' of the proposed action (including the 'work' involved in taking the action)" (pp. 348-349). A cue to action then acts as a stimulus to prompt the individual to ultimately take part in the health action.

According to Rosenstock, (1960), "the motive that determines whether health-related actions will be taken depends upon the degree to which the individual feels threatened by a given disease" (p. 297). He must also see some action available "which

he believes would either reduce the likelihood of occurrence or the seriousness of the problem" (p. 297).

Rosenstock (1960) states that even if a person is adequately motivated to take action, "a conflict may occur to influence ultimate behavior if the action he is required to take is in itself unpleasant, painful, or upsetting (p.298)." When a person is very frightened or anxious, he or she may not be able to think rationally about the health action. The anxiety and/or fear may prevent action.

Kirscht (1974), states "the model is useful if it implies that there are ways to activate beliefs already in existence, or if it implies that, as a result of belief change in the 'right' direction, appropriate behavior becomes more likely" (p. 455). Kirscht explains that there is a need for a stimulus for the necessary belief to be called into action. Kirscht states,

> If the individual perceives greater threat from an ill health condition, or if health motivation is increased, or if the perceived value and/or likelihood of an action to reduce a threat is increased, or if the costs of an action that is efficacious against a threat are reduced, or if some combination of these changes takes place, then the likelihood of the action is increased (p. 455).

According to Becker, Haefner, Kasl, Kirscht, Maiman, and Rosenstock (1977), the Health Belief Model includes the individual's "subjective state of readiness to take the action" (p. 29). Readiness is influenced by perceptions of susceptibility to the disease and perceptions of severity of the consequences of having the disease. Becker (1977) states the Health Belief Model includes perceived benefits of the health behavior, "an estimate of the action's potential benefits in reducing susceptibility and/or severity" (p. 29).

Benefits are weighed against costs or barriers. Perceived costs or barriers can be financial, social, psychological or physical. A stimulus is needed to prompt the action. A cue to action, according to Becker et al. (1977, p. 29), "can be either internal (e.g., symptoms) or external (e.g., interpersonal interactions, mass media communications"). Leventhal, Safer, and Panagis (1983) describe the Health Belief model as including four components:

1. The individual's perception of his or her vulnerability to a health threat;
2. The perception of the severity of the threat;
3. The perception of benefits versus the perception of costs from taking the recommended action; and
4. Cues to action.

Individuals must perceive health threats that are significant to them. They must believe that the benefit of having the health screening outweighs the perceived cost to them, and they must have a stimulus to prompt them to access the health screening. The people's perceptions regarding their vulnerability and the seriousness of the health threat are what prompts action and not the actual reality.

Champion (1993) stated that two additional components are important: general motivation and confidence. Champion used the HBM to study the practice of breast self-examination (BSE). She found that benefits and barriers were significant predictors for utilization of breast cancer screening services with barriers consistently accounting for the most variance in BSE behavior. General health motivation and confidence were found to be positively related to BSE.

The salience of the individual components of the HBM has varied across studies. Rutledge (1987) studied BSE using the HBM as the theoretical framework. She found that the four major HBM components were predictors of whether a woman will perform BSE: "(a) her perceived susceptibility to breast cancer and perceived seriousness of the consequences of breast cancer, and (b) her perceptions of the benefits and barriers to BSE" (p. 117). Kim, Horan, Gendler, and Patel (1991) used the Health Belief Model to develop the Osteoporosis Health Belief Scale. They found that barriers and health motivation were the most important constructs in explaining both calcium intake and exercise behaviors.

Stein, Fox, Murata, and Morisky (1992) studied the influence of the HBM constructs on prior mammography usage and the intention to obtain mammograms using information from a group of 1,057 women who were 35 years old and lived in an urban community. They found that "cues to action, operationalized as a physician influence variable, were related to prior mammography, while perceived susceptibility was the most powerful predictor of future intentions to obtain a mammogram." (p. 447). In this study perceived barriers were found to be less significant than perceived benefits.

Hijeck (1984) developed a tool to predict patient entrance and participation in a cardiac rehabilitation program using the Health Belief Model as a conceptual framework. Hijject found all aspects of the Health Belief Model to be useful.

The Health Belief Model has been used successfully to study health behaviors for over 40 years. Of the four major HBM constructs, perceived benefits and perceived barriers have exerted the greatest influence on health promoting behaviors (Becker et al., 1977; Champion, 1993; Hijeck, 1984; Kim et al., 1991; Kirscht, 1974; Leventhal et al.,

1983; Rosenstock, 1974; Rutledge, 1987; Stein et al., 1992) with benefits and barriers having relatively more or less influence in particular studies.

The HBM has provided the conceptual framework for this study. The focus was on examining the perceptions of women over 50 regarding the benefits of and barriers to, obtaining frequent Papanicolaou tests. Women who have and have not had frequent Papanicolaou tests were compared with respect to the reasons they gave for their decision.

Literature Review

The purpose of this study was to identify what factors influence women's decision making regarding frequent Papanicolaou tests after age 50. The focus of the review was on the benefits and barriers that are documented in empirical studies as affecting the frequency of Papanicolaou testing.

System factors. According to Blesch and Prohaska (1991), older women are not screened for cervical cancer as regularly as younger women. Under-representation of older women in populations screened is a major issue, both by organized screening programs and by individual physicians. Blesch and Prohaska found that patients who received care from a gynecologist received Papanicolaou tests more often than those who received care from a general practitioner or internist. It was postulated that when women presented at the doctor's office for nongynecological problems, treatment of the medical condition was the focus rather than screening. This practice might be due to the general practitioners and internists not being skilled or comfortable doing Papanicolaou tests.

According to the American College of Physicians Ad Hoc Committee on Women's Health (ACPAHCWH, 1997), women past childbearing age often do not see a

gynecologist for care. They are more likely to be seen by a general practitioner or internist; therefore, it is important that women's health care transcends reproductive care and should address the broad spectrum of health concerns of adult women throughout their life cycle. The Papanicolaou test and pelvic exam should be a part of routine women's health care whether they choose to be cared for by a general practitioner, internist, or gynecologist.

The pelvic examination and Papanicolaou test can be very stressful for some women. Many older women experience fear or embarrassment. Some women experience pain or discomfort during the pelvic examination and Papanicolaou test. Other women do not understand why they need a pelvic examination and Papanicolaou test. Blesch and Prohaska (1991) stated, "Having had a hysterectomy does not preclude a need for gynecologic health care and Pap smear" (p, 145). Older women who have had a hysterectomy are less likely to receive subsequent Papanicolaou tests. This includes those women who had a hysterectomy due to cancer. Women who had a hysterectomy were included in a study done by Mandelblatt and Hammond (1985) to determine if Papanicolaou testing was necessary in older women. It was found by Mandelblatt and Hammond that "one of the abnormal Pap smears occurred in a woman who had a total hysterectomy. On biopsy this proved to be an early vaginal squamous cell carcinoma" (p. 287).

Older women have different health care needs than women of childbearing age. Clancy and Massion (1992) examined the difference between what should be done in women's health care and what actually is done. They state that a growing proportion of older women have both a higher incidence of disease and fewer resources to pay for

health care. These women are less likely to have had a recent Papanicolaou smear in spite of having had a recent physician visit. A physician visit is often rushed and focused on the presenting symptom. Preventive health services can easily become minimized and often go unmentioned.

In a study done by Burnett, Steakley, & Tefft (1995), it was found that provider-client relationships and respect for clients influenced whether women accessed cancer screening services. According to Allen, Gilchrist, Levenson, and Roter (1993), women prefer health care providers who take more time and address their concerns. These women are more likely to have frequent Papanicolaou tests and other preventive health services.

The Writing Group of the 1996 American Academy of Nursing (AAN) Expert Panel on Women's Health (1997) stated that in the past women's health has "been viewed as reproductive health; however, more recently women's health has been redefined as encompassing the entire life span, and women's health care has been redefined as including health promotion, maintenance, and restoration (p.7)." Inability to pay for health care was identified as a barrier.

Frequency of screening. Morrison (1997) discussed the need for regular Papanicolaou smears. According to Morrison (p. 1283), "Cervical carcinoma in situ was diagnosed in more than 65,000 women in 1995 (lifetime risk: 2%); invasive cervical cancer was diagnosed in 15,800 women (lifetime risk: 0.7%), and 4,800 others died of cervical cancer." Older women are four times more likely to have invasive cervical cancer occur than the average rate of occurrence. In addition, Morrison (1997) states, "the controversy surrounding the Pap smear in the late 1990s is not whether to do the

screening, but when to do it" (p. 1283). Cost has become an important issue in regard to recommendations for frequency of Papanicolaou test. Morrison (1997) presents recommendations for frequency of Papanicolaou tests from different medical organizations. These recommendations are not consistent. Each organization has its own guidelines. Morrison states that the United States Preventive Services Task Force recommends Papanicolaou tests at least every three years if a woman is sexually active or after eighteen years of age if sexual history is in question. The American Academy of Family Physicians recommend annual Papanicolaou tests for all women over age 18. After three consecutive normal Papanicolaou tests, the test may be done at the frequency deemed necessary by the physician, but at least every three years. The American College of Obstetricians and Gynecologists recommend that Papanicolaou tests be done every year for women 18 and older. After three consecutive normal Papanicolaou tests, the Papanicolaou test may be done at the physician's discretion, but at least every 3 years. If a woman is considered high risk she should be screened annually.

The Cervical Cancer Control Plan for Michigan, which was written by the Cervical Cancer Advisory Committee at Michigan Department of Community Health (1998), and which is a part of the Michigan Cancer Control Initiative, states that the guidelines for Papanicolaou testing are "inconsistent" and "lack consensus" regarding screening intervals for women of all ages, most especially for women over 65 years of age. The Cervical Cancer Control Plan for Michigan (1998, p. 4), states "Increased frequency of Pap smear screening decreases the false negative rate of screening; therefore, regular annual Pap smear screening should be emphasized." According to Edelman and Mandle (1994), Papanicolaou tests should be done annually. Brown (1996)

also recommends that Papanicolaou tests be done every year. Because the guidelines for screening intervals for all women and screening after age 65 are inconsistent, many physicians may not know which guideline to follow.

Confusion regarding the interval for frequency of Papanicolaou smears may cause physicians to give conflicting information to patients. This is significant because physician recommendation has been shown to influence women's decisions to have Papanicolaou smears according to Suarez, Nichols, Pulley, Brady, and McAlister (1993).

Sutton, Eisner, and Burklow (1994) state many older people don't know about cancer screening. Through the use of focus groups, it was determined that fear was the greatest barrier to older persons utilizing cancer screening. A communication program was developed that acknowledged fear and empowered older persons to take advantage of cancer screening programs including utilization of Papanicolaou test screening. This method of communication "appeared effective in lessening fears about cancer and enhancing people's receptivity to being tested" (p. 2197).

Benefits, barriers, and cues to action. A study by Suarez, Nickols, Pulley, Brady, & McAlister (1993) involved an effort to increase breast and cervical cancer screening by the use of role models. Information was given via mass media regarding the importance of breast and cervical cancer screening. Role models' stories were featured in local newspapers. Radio and cable television also presented information. "Volunteers were trained, using modeling and role playing, how to recommend going for breast and cervical cancer screening" (p. 480). Newsletters were also distributed with information about cancer screening services. According to Suarez et al.(1993), the impact on health department clinics was positive with increased numbers of persons screened for breast

and cervical cancer.

The study done by Suarez et al. (1993), was funded by the National Cancer Institute to increase utilization of breast and cervical cancer screening. A sample of 107 women in Corpus Christi and 82 women in Galveston was used for this study. The sample included Mexican American women and African American women aged 40 to 60. Information was elicited on knowledge, attitudes, and practices regarding cancer screening.

The design of the study was quasi-experimental and data were collected through focus groups and a mailed survey. It was found that women beyond childbearing age had limited access to information about mammography and Papanicolaou tests. A communication effort was launched to bring information to this group. Barriers to having a Papanicolaou test were found to be (a) feeling that the examinations were unnecessary, (b) cost, (c) lack of physician recommendation, (d) fear, and (e) embarrassment (Suarez et al. 1993).

Arevian, Noureddine, and Kabakian (1997) conducted a survey of 290 Lebanese/Armenian women ages 18 and over (36% of the sample was over age 51) to determine the impact of educational level and perceived economic status on women's knowledge of, attitudes toward, and practice of cervical screening. A descriptive correlational design was used. Cost and embarrassment were found to be significant factors in this study. Among women who perceived their income to be low or average, cost and embarrassment were the most common barriers to obtaining a Papanicolaou test. Women who perceived their income to be high were more concerned with discomfort and bad test results.

A study was conducted to identify barriers to breast and cervical cancer in the District of Columbia (Burnett et al., 1995). The sample included 339 women ages 40 to 77 who were medically under served. A cross-sectional correlational design was used and data were collected via interviews. The Theory of Reasoned Action (TRA) was used as the conceptual framework for this study. "Demographic and contextual variables as well as attitudes and influence of significant others" (p.1551) were studied. Contextual variables were defined as "history of cancer, previous use of cancer screening tests, patient-provider associations, cost and accessibility of services" (p. 1551).

The dependent variable in the study by Burnett et al. (1995, p. 1551) regarding Papanicolaou test was "to have a Pap test within one year of the last Pap test" and the independent variable was attitude toward Papanicolaou tests. Two variables were found to be significant in this study, the personal attitude and the attitude of a significant other toward having a Papanicolaou test. Burnett et al. found that a large number of low income women and women over 50 years of age were not screened for cervical cancer. Women age 50 and older were found to be much less likely to have ever had a Papanicolaou test. According to Burnett et al. (1995),

> Knowledge of cervical cancer had a negative relationship with intention to have a Pap test ($p = 0.004$). A significant association was observed between patient-provider relationships (e.g., whether the nurse or physician cared for the patient, treated her well, or showed her respect) and intention to have a mammogram and a Pap test ($p = 0.03$). No significant relationship was observed between intentions and demographic variables, personal history of cancer, and family history of breast or cervical cancer (p. 1555).

Intention to have a Papanicolaou test and the influence of significant others was positively related to attitude toward Papanicolaou tests. Knowledge of cancer and length of time it took to get a Papanicolaou test was reported as having negatively affected intention to have a Papanicolaou test. Frequently cited barriers such as cost were not significant in this study.

The Barriers to Breast and Cervical Cancer Screening Questionnaire (BBCCSQ) was developed for the study and contains 237 items specific to use of screening services and factors that may be barriers. One subscale measured the likelihood a woman would have a Papanicolaou test. Another measured likelihood that a woman would have a mammogram and do breast self-examination. Knowledge of cancer of the breast and cervix was also measured (Burnett et al., 1995).

An exploratory study was conducted by Hoeman, Ku, and Ohl (1996) to determine how participation in early screening for cancer is influenced by cultural beliefs and understandings for Chinese women in the United States. The Health Belief Model was used as a framework. A sample of 23 Chinese women completed a questionnaire to gather information about knowledge and beliefs regarding breast self examination and Papanicolaou tests. Over one-third of the women studied thought they should wait until after they were 40 years old to start preventive health practices. Husbands were found to be cues to action and modesty was a barrier for Papanicolaou smears.

A limitation of the study was the small sample. Findings cannot be generalized to other populations. One strength of the study was that a person of the same culture and life situation was used as the investigator, which facilitated communication with the participants (Hoeman et al., 1996).

White (1995) studied older women's attitudes about cervical screening and cervical cancer. The purpose of this qualitative study was to find out how perceptions of cancer and Papanicolaou tests affect health screening behavior in older women in New Zealand. The sample included nine healthy Caucasian women ages 45 to 70 who were referred by a physician. These women had a history of no Papanicolaou tests or delayed Papanicolaou tests. Data were collected by interview. This study found that many older women believed they didn't need a Papanicolaou test. Barriers perceived by the women studied included cost, fear, embarrassment, and the belief that older people are no longer valued. Not going to the health care provider unless they were sick and believing they were too old to have Papanicolaou tests were also influencing factors.

There was also a lack of understanding that Papanicolaou tests could detect precancerous conditions which could be cured and prevent cancer. A limitation of this study was that the findings cannot be generalized. Strengths of the study are that it "highlights cognitive, emotional, socioeconomic and ego integrity barriers to regular cervical screening (White, 1995, p. 659).

Weinrich, Coker, Weinrich, Eleazer, and Greene (1995) conducted a cross-sectional survey to identify factors that indicated participation in Papanicolaou testing. The study included 238 women aged 50 years and older. A random selection was done from Council on Aging congregate meal sites. Personal interviews were used to identify (a) those persons who had a Papanicolaou test within the past 2 years, (b) those who had not had a Papanicolaou test within the past 2 years, and (c) those who had never had a Papanicolaou test. The study found that although 57% had a Papanicolaou test within the past 2 years; 26% had one longer than 2 two years ago and 17% had never been tested.

Lower income was found to be a determining factor for never having had a Papanicolaou test. This study also found that not participating in a free screening for fecal occult blood was a "significant predictor of never having had a Pap smear and is not reported in previous literature" (Weinrich et al., 1995, p. 268). In addition, "not having or being able to use a phone was independently associated with never having a Pap smear even after controlling for low income" (p. 269).

Mandelblatt et al. (1993) studied participation in breast and cervical cancer screening programs by low income black women. Sample selection was done randomly using the clinic appointment schedule. Women selected were 69 years old and older. Women were offered same day screening. They were interviewed using a questionnaire. Confirmation of information was done whenever possible by medical record review. Scales were developed for measurement which "included the domains of perceived benefit, perceived susceptibility, perceived seriousness, attitudes, life satisfaction and knowledge" (p. 22).

Study results showed that those women who stated they would have a Papanicolaou test and those women with Medicaid insurance were more likely to participate. "A high proportion of elderly, socioeconomically disadvantaged black women will participate in cancer screening when it is offered in a primary care setting" (Mandelblatt et al., 1993, p. 20). The study found "components of the health belief model, such as perceived benefit and susceptibility to breast and cervical cancer, did not predict screening participation" (Mandelblatt et al., 1993, p. 27).

Weaknesses of this study were, according to Mandelblatt et al. (1993), that the results are not generalizable to any population except low-income black women in a

similar urban clinic. Strengths of the study were that it targeted older socioeconomically disadvantaged black women.

Implications for study. The current health care system does not have a clear definition of screening interval for Papanicolaou tests for all women. It also does not have a clear definition of screening recommendations for women over age 65 and women who have had a hysterectomy (Association of Professors of Medicine, 1997; Blesch & Prohaska, 1991; Cervical Cancer Advisory Committee 1998; Clancy and Massion, 1992; Mandelblatt & Hammond, 1985; Morrison, 1997; Suarez et al., 1993). This is significant because if health care providers don't have clear guidelines for Papanicolaou testing, they may be inconsistent in what they recommend. Physician recommendation has been found to be a significant factor in women having regular Papanicolaou tests (Suarez et al., 1993).

In the studies reviewed in this research, variables including (a) fear, (b) cost, (c) embarrassment, (d) handicap, and (e) lack of education regarding the importance and need for frequent Papanicolaou tests were barriers found to influence women's decisions to have frequent Papanicolaou tests. Health care provider recommendation and recommendation of significant others were cues that influenced obtaining Papanicolaou tests. Other significant variables were found in individual studies. White (1995), found that women believed that older people are no longer valued. Weinrich, Coker, Weinrich, Eleazer, and Greene (1995) found that not being able to use a telephone was a significant negative factor. Patient/provider relationship was found to be a significant factor in a study done by Burnett, Steakley, and Tefft (1995).

The efficacy of particular Health Belief Model components continues to vary

across studies. Stein, Fox, Murata, and Moresky (1992) found perceived barriers to be less significant than perceived benefits. Mandelblatt, Traxler, Lakin, Kanetsky, and Kao (1993) found that the components of the HBM, such as perceived benefit and perceived susceptibility to breast and cervical cancer, did not predict screening participation.

The studies in this research cannot be generalized to populations other than those targeted by the particular study due to small sample size and method of selecting subjects. Only one of the studies reviewed (Weinrich et al., 1995), targeted women age 50 and over (mean age 72). There is a need for additional studies regarding what influences women's decisions to have frequent Papanicolaou tests after age 50. Appropriate strategies to address these factors can then be identified and addressed.

Research Questions

1. What barriers do women age 50 and older perceive as important to decisions related to obtaining Papanicolaou tests?
2. What cues to action do women age 50 and older perceive as important to decisions related to obtaining Papanicolaou tests?
3. What benefits of having Papanicolaou tests are perceived by women age 50 and older?
4. What differences are there in perceived barriers, cues to action and benefits between those who do and do not obtain frequent Papanicolaou tests?

Definition of Terms

Perceived Benefits: The beliefs or perceptions a woman has regarding how having a Papanicolaou test will positively affect her health. This includes preventing

cervical cancer, detection of precancerous cells, detection of early cervical cancer, contributing to health maintenance, or preventing the consequences of cervical cancer including physical, mental, economic, and social consequences.

Perceived Barriers: Beliefs or perceptions a person has regarding the negative aspects of having a Papanicolaou test or impediments to obtaining a test. These might include financial difficulties, no insurance, embarrassment, inconvenience, time away from job or other responsibilities, change in body image, possible side effects of treatment, lack of support system, lack of transportation, fear of being treated differently, fear of pain, and fear of death.

Cues to Action: A stimulus that occurs to prompt an action. A cue to action might include the influence of a significant other, recommendation by the health care provider, an article in the newspaper, other media information, knowledge of someone who was found to have dysplasia or cervical cancer, or personal symptoms of disease thought to be related to cervical cancer.

Frequent Papanicolaou Tests: Frequent Papanicolaou tests as defined in this thesis are Papanicolaou tests that are done a minimum of every 3 years.

Infrequent Papanicolaou Tests: Infrequent Papanicolaou tests as defined in this thesis are Papanicolaou tests that are done less frequently than every 4 or more years.

CHAPTER 3

METHODS

Design

This study was conducted using a descriptive design. The dependent variable in the study is women's stated behavior with regard to obtaining Papanicolaou tests. Independent variables to be studied are (a) barriers and (b) cues to action perceived as important to decisions with regard to obtaining Papanicolaou tests and (c) perceived benefits of obtaining Papanicolaou tests. The variables were assessed by administration of a face to face interview done at three different sites including a Health-O-Rama, a senior meal site, and a physician's general practice clinic.

A convenience sample was used in this study. Two women of the 48 had been referred to me by the physician when they presented for a health problem at the clinic because they had not had a Papanicolaou test for over 4 years. Women age 50 and older were selected from a rural general practice clinic, a Health-O-Rama, and a senior meal site from rural areas. Interviewing continued until 24 women who had received Papanicolaou tests every 4 or more years and 24 women who had received Papanicolaou tests at least every 3 years were interviewed. Information obtained from this sample cannot be generalized to any other population. Extraneous variables including education, social class, level of health, functional status, and attitude were not measured in this study.

The advantage of using a descriptive study design was that there was no necessity to manipulate variables. Perceived benefits, barriers, and cues to action that affect women obtaining regular Papanicolaou tests were studied to provide information as it naturally occurred. Subjects were asked to participate in one interview only which involved minimal time investment for the subject and may have increased their willingness to participate.

Instrument

The instrument used to collect data was developed for this study (see Appendix F). Information was taken from three instruments that had been used in previous studies. One instrument was developed by Burnett et al. (1995) to measure barriers to breast and cervical cancer screening using the Theory of Reasoned Action (TRA) as a conceptual framework. The questionnaire by Burnett et al. includes sections on eligibility and demographic data, personal health history, and family health history in Section I. Section II contains information on how the subject found out about the breast and cervical cancer screening services, transportation to the clinic, and reasons why the subject attended the clinic. Part II also includes reasons that would influence the subject not to come back for breast and cervical cancer screenings. In addition, the questionnaire asks subjects to indicate ways to inform people about the availability of breast and cervical cancer examination services that would best reach them. Section III of the questionnaire asks what the subject believes about mammograms, breast self-examination and Pap tests and how likely she is to have these exams. Interview was done in Burnett et al.'s study.

According to Burnett et al. (1995), "Content validity was established by individuals with expertise related to underserved populations who reviewed and critiqued

the BBCCSQ for both content and congruence with TRA." Cronbach's alpha was used to test reliability coefficients. Reliability coefficients for each dependent variable were between .65 and .87 (p. 1554).

Selected content from all three sections of the tool developed by Burnett et al. (1995) having to do with Papanicolaou testing was used for this study. The information was used with permission (see Appendix I) and put into the format of benefits, barriers, and cues to action commonly seen in the Health Belief Model. Benefits, barriers, and cues to action that were found to affect women's decisions not to have frequent Papanicolaou tests that were identified in several studies cited previously were determining factors in the selection of items from Burnett et al.'s tool.

The second instrument was developed by Champion (1993) to study breast cancer screening behaviors. Champion's instrument was used with permission from the author (see Appendix H). Champion's instrument measures confidence, health motivation, benefits, barriers, susceptibility, and seriousness. Champion's study used the HBM as the theoretical framework. The purpose of the study, according to Champion (1993), was to "refine an instrument to measure the Health Belief Model concepts of susceptibility, seriousness, benefits, barriers, health motivation, and confidence, using the context of breast cancer and breast self-examination" (p. 139). Various questions from Champion's tool were used in the instrument to collect data in this study. Wording was changed so that the questions asked what influenced women's decisions regarding obtaining Papanicolaou testing rather than mammogram testing. The questions related to barriers and benefits in Champion's tool were used in this study's instrument also. Champion used a response option of (a) strongly disagree, (b) disagree, (c) neutral, (d) agree, and (e)

strongly agree. She used a 5-point scale with strongly disagree being 1 and strongly agree being 5. The same response options were used in this study to determine what influences women to obtain Papanicolaou tests 5.

The third instrument was developed by Kim, Horan and Gendler (1991). This instrument was developed based on Champion's (1993) instrument and utilized an interview format. The format for interview from Kim et al's study was used with permission to develop an interview format for this study (see Appendix G). A 5-point scale was used in Kim et al's study (1991) with a response option of (a) strongly disagree, (b) disagree, (c) neutral, (d) agree, and (e) strongly agree. They used a 5-point scale with strongly disagree being 1 and strongly agree being 5. Kim et al. used a written explanation, which was printed on each interview form to explain what their study was about. It also contained information regarding the interview process including the fact that the interviewer was going to ask them some questions about osteoporosis. It stated there were no right or wrong answers and that different experiences affect how people feel. It instructed the subject to tell the interviewer if they (a) strongly disagree, (b) disagree, are (c) neutral, (d) agree, or (e) strongly agree. In the directions it was stated that the subject should answer the questions according to her beliefs and not how she thought the interviewer wanted her to answer or how she thought she should answer. The information from Kim et al's tool explaining what the interview was about and instructing the participant how to follow the directions was used in this study. This information was read to each participant before asking the questions.

The interview tool used in this research included three main sections. The first section included 14 questions that identified perceived barriers (see Appendix F,

questions 1-14), the second section included four questions that identified perceived cues to action (see Appendix F, questions 15-18), and the third section contained four questions that identified perceived benefits of having Papanicolaou tests (see Appendix F, questions 19-22). Question 23 was an open-ended question asking for other influences not included in the interview tool. In addition, the instrument requested information regarding frequency of past Papanicolaou tests, the age of the subject, and race. The interview tool included specific written directions including response options. Directions were read to each study participant prior to questions being asked. Response options included five choices which were written on a card and given to the subjects to choose from. Response choices included a 5-point scale (a) strongly disagree, (b) disagree, (c) neutral, (d) agree, and (e) strongly agree with strongly disagree scored as 1 and strongly agree scored as 5.

Five women age 50 and over read the instrument developed for this research to assess if it was easy to understand. The instrument was also reviewed by two experts for content validity. The instrument was then pilot tested on five women age 50 and over to ascertain if any changes should be made. Because the instrument used in this research has not been tested for reliability, Cronbach's alpha was evaluated for each subscale. Reliability coefficients for barriers were found to be alpha = .76. Cues to action had a reliability coefficient of alpha = .35, and the reliability coefficient for benefits were alpha = .78.

Procedures

Subjects were identified when they presented for services at a rural general practice clinic, a Health-O-Rama in a rural area, and at a senior meal site. All women

over age 50 were asked if they would participate in a study to determine what influences women's decisions to obtain Papanicolaou tests. A letter of introduction was given to all subjects who agreed to participate in the study explaining the study and introducing the researcher as the interviewer (see Appendix D). The researcher's phone numbers at home and at work were included in the letter in the event there were any questions after the interview. The phone number for the Chairperson of the Human Research Review Committee at Grand Valley State University was also given to subjects in the letter of introduction so they could call him with any questions. An informed consent was signed by all subjects prior to the interview (see Appendix E).

The consent form included information about why the subject was selected for the study, a statement that information would be confidential, and a statement that a summary of results would be available to the subject upon request. The consent form also stated that subjects were acknowledging that an opportunity was given for them to ask questions, that participation in the study was voluntary, that they could withdraw at any time, and that the phone number for the Human Research Review Committee at Grand Valley State University had been given to them. A statement of authorization for the investigator to release information in the study to scientific literature was also included.

Data was collected regarding benefits, cues to action, and barriers affecting women obtaining regular Papanicolaou tests. There was no intervention in this study. Subjects were requested to answer questions in a face-to-face interview. One person performed all interviews. Prior to the question and answer portion of the interview, a prepared statement was read to each subject explaining the interview's purpose. Subjects were informed that the interview questions would pertain to factors that may affect their

decisions to have Papanicolaou tests. They were read directions regarding how to answer questions including response choices. A card was given to each subject which listed the five possible choices as responses to each question. Instructions for utilizing the five possible responses listed on the card as answers to the questions were read from the interview form. The subjects were instructed to answer the way they believed and not the way they thought they should answer or the way they thought the interviewer might want them to answer (see Appendix F). The response to each question was recorded on the interview form by the interviewer. Study participants were informed that all information given by them during the interview was confidential. They were asked to give demographic information regarding age and race. They were also asked to give information regarding frequency of past Papanicolaou tests.

CHAPTER 4

DATA ANALYSIS

Techniques

Nominal and ordinal data were collected by face-to-face interviews. Subjects indicated their agreement on a 5-point scale (strongly agree = 5) with the importance of factors influencing their decisions regarding Papanicolaou tests. Percentages were calculated for the responses to each question in the interview. Data was collapsed combining agree and strongly agree and also combining disagree and strongly disagree due to numbers being so small. Differences in perceived barriers to having Papanicolaou tests were analyzed using the Mann Whitney U test. This was done to determine what had influenced women who had less frequent Papanicolaou tests compared to those women who had more frequent Papanicolaou tests. This enabled the researcher to identify what barriers, cues to action, and benefits affected one group more frequently than another.

Characteristics of Subjects

Forty-eight women age 50 and older were included in the study. This included 24 women who had had Papanicolaou tests at least every 3 years and 24 women who had had Papanicolaou tests less frequently. A convenience sample was obtained from three sites: a rural Health-O-Rama, a rural senior meal site, and a rural general practice clinic. Subjects were interviewed in person until an adequate number of women had participated. Ages ranged from 50 to 85 years of age with 48% (n = 23) between the ages

of 50 and 64 and 52% (n = 25) between 65 and 85 years of age. Nearly all of the women included in this study were Caucasian (93.8%). A small percentage of women were American Indian (4.2 %) and Asian (2.1%).

All women in the study had obtained Papanicolaou tests at some time in their lives. Fifteen women (31%) had obtained Papanicolaou tests every year and fourteen women (29%) in the study had obtained Papanicolaou tests every 4 or more years. Ten

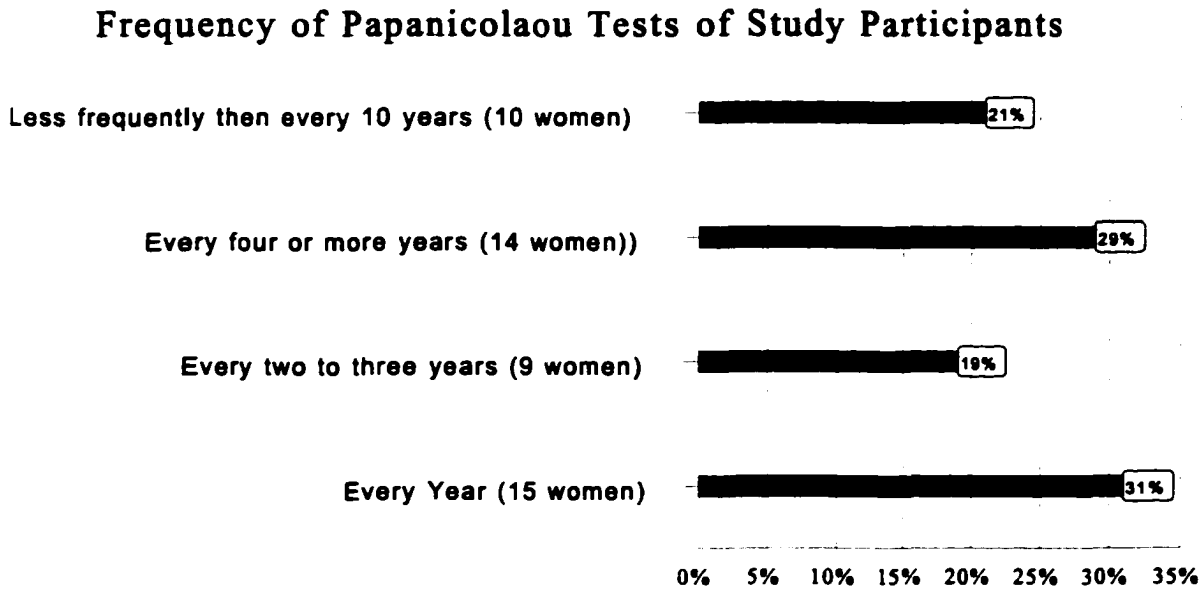

Figure 1. Bar Graph Depicting Frequency of Papanicolaou Tests of Study Participants

women (21%) had obtained Papanicolaou tests less frequently than every 10 years and nine women (19%) had obtained Papanicolaou tests every 2 to 3 years (see Figure 1). In this sample, the frequency of obtaining Papanicolaou tests differed according to age

with women under age 65 (27%) obtaining tests more frequently than women age 65 and older (23%) (see Table 1).

Frequent Papanicolaou tests as defined in this thesis are Papanicolaou tests that are done every 1 to 3 years. Infrequent Papanicolaou tests as defined in this thesis are Papanicolaou tests that are done every 4 or more years (see Figure 1).

Table 1. Comparison of Frequency of Obtaining Papanicolaou Tests According to Age

Age	Frequent (n) %	Infrequent (n) %	Totals (n)%
Under 65 (n = 23)	(13) 27.08	(10) 20.83	(23) 47.91
65 and over (n = 25)	(11) 22.91	(14) 29.16	(25) 52.07

Research Questions

This study specifically sought to answer the following questions:

1. What barriers do women age 50 and older perceive as important to decisions related to obtaining Papanicolaou tests ?
2. What cues to action do women age 50 and older perceive as important to decisions related to obtaining Papanicolaou tests?
3. What benefits of having Papanicolaou tests are perceived by women age 50 and older?
4. What differences are there in perceived barriers, cues to action and benefits between those who do and do not obtain frequent versus infrequent Papanicolaou tests?

Method of Analysis

In this study, analysis of what barriers women age 50 and older perceived as important to decisions related to obtaining Papanicolaou tests was accomplished by comparing the percent of agreement or mean ranks among questions 1-14 on the interview form (see Appendix F). Those questions involved barriers that could prevent women from obtaining Papanicolaou tests. Mean agreement scores were used to rank the importance of specific barriers in influencing women age 50 and older regarding obtaining Papanicolaou tests.

Questions number 15-18 related to perceived cues to action and questions 19-22 related to perceived benefits included in the interview were analyzed in the same manner. The questions regarding perceived cues to action involved a stimulus that could prompt women to obtain Papanicolaou tests. The questions regarding perceived benefits involved benefits to obtaining Papanicolaou tests. Mean responses were used to rank the importance of barriers, cues to action, and benefits in influencing women age 50 and older regarding obtaining Papanicolaou tests. Data was collapsed by using the total of responses to agree and strongly agree and the total of disagree and strongly disagree due to the small numbers involved. Differences in perceived barriers, cues to action, and benefits between those who do and do not obtain frequent Papanicolaou tests were then analyzed by using the Mann Whitney U test on an item to item basis.

Research Question Number One

Research question number one asked what barriers women age 50 and older perceive as important in influencing their decisions to obtaining Papanicolaou tests. The vast majority of the sample did not consider any of the barriers to be important to their

decisions about obtaining Papanicolaou tests. Mean responses were used to rank the importance of barriers to having Papanicolaou tests. Embarrassment was the response with the highest-ranking mean ($\underline{M}$ = 2.48, $\underline{SD}$ = 1.29). Lack of insurance coverage had the second highest-ranking mean ($\underline{M}$ = 2.42, $\underline{SD}$ = 1.35). The percent of subjects who did agree that particular barriers were important to their decision making were examined. Twenty-seven percent were in agreement that not having insurance was a barrier and another 27% were in agreement that embarrassment was a barrier. Cost of Papanicolaou tests was reported as a barrier by 21%, and 21% agreed that having a Papanicolaou test would make them worry. When asked if pain was a barrier to obtaining Papanicolaou tests, nearly 17% were in agreement. Nearly 15% of the subjects agreed that testing for cervical cancer was not important and that this had influenced their decisions regarding obtaining Papanicolaou tests. Subjects were asked if not knowing about Papanicolaou tests had influenced their decisions and over 12% were in agreement (see Table 2).

Research Question Number Two

Research question number two asked what cues to action women 50 and older perceived as important to decisions to obtain Papanicolaou tests. Health care provider recommendation was found to have the strongest agreement with 60% of study participants agreeing that it had prompted action. When asked if the media had influenced decisions regarding Papanicolaou tests, 33% agreed. Twenty-seven percent were in agreement that when a friend had cancer and wanted them to take better care of their health, it had influenced their decisions to obtain Papanicolaou tests. Almost 21% were in agreement that when a family member reminded them to have Papanicolaou tests, it influenced their decisions (see Table 3).

Table 2. Number and Percent of Agreement on Barriers to Papanicolaou Tests

Interview Question (n = 48)	Agreement (n)	%
Lack of insurance coverage	(13)	27.1%
Having a Pap test would be embarrassing	(13)	27.1%
Cost too much	(10)	20.8%
Having a Pap test would make me worry about cancer	(10)	20.8%
Inconvenient time	(8)	16.7%
Having a Pap test would be painful	(8)	16.7%
Didn't think testing for cervical cancer was important	(7)	14.6%
Didn't know about about Pap tests	(6)	12.5%
Bad treatment by health care staff in the past	(4)	8.3%
Inconvenient location	(4)	8.3%

Table 3. Number and Percent of Agreement on Cues to Action to Papanicolaou Tests

Interview Question (n = 48)	Agreement (n)	%
Clinic/physician/nurse recommended you have a Pap test	(29)	60.4%
Television program, newspaper article, radio advertisement, or other media information about the need for Pap test	(16)	33.3%
Someone you know, recently diagnosed with cancer, wanted you to take better care of your health	(13)	27.1%
A family member reminded you	(10)	20.8%

Mean responses were used to rank the importance of cues to action to having frequent Papanicolaou tests. In this study, mean ranking for cues to action showed (a) health care provider recommendation to have the most agreement ($M = 3.27$, $SD = 1.30$), (b) media information regarding need for Papanicolaou tests was second highest ($M = 2.67$, $SD = 1.21$), and (c) someone you know, recently diagnosed with cancer, wanted you to take better care of your health ($M = 2.54$, $SD = 1.13$) was ranked third.

Research Question Number Three

Research question number three asked what benefits of having Papanicolaou tests do women age 50 and older perceive to have influenced their decisions to obtain Papanicolaou tests. When asked if having Papanicolaou tests would find precancerous cells, over 85% of women in the study were in agreement that this was an important

benefit to them (see Table 4). When subjects were asked if having Papanicolaou tests would help find cancer earlier, slightly over 81% were in agreement. Seventy-nine percent of subjects were in agreement that having Papanicolaou tests would decrease chances of death from cervical cancer if cervical cancer occurred, and 79% were in agreement that having Papanicolaou tests would decrease chances of radical surgery if cervical cancer occurred.

Mean responses were used to rank the agreement that particular factors were benefits to having frequent Papanicolaou tests. According to this ranking, the benefit of finding cervical cancer early had the most agreement ($\underline{M}$ = 3.98, $\underline{SD}$ = .89). Belief that a Papanicolaou test will help find abnormal cells before they actually become cervical cancer was ranked second ($\underline{M}$ = 3.83, $\underline{SD}$ = 1.08) and having a Papanicolaou test will decrease the chances of dying from cervical cancer ($\underline{M}$ = 3.83, $\underline{SD}$ = 1.10) ranked next. Having a Papanicolaou test will decrease the chances of requiring radical surgery if cervical cancer occurs had the next highest ranking mean benefit ($\underline{M}$ = 3.71, $\underline{SD}$ = 1.07).

Research Question Number Four

Differences in responses between those who have frequent Papanicolaou tests and those who have infrequent Papanicolaou tests regarding individual barriers, cues to action, and benefits were tested using the Mann Whitney U test. Frequent Papanicolaou tests were defined in this study as Papanicolaou tests obtained at least every 3 years. Infrequent Papanicolaou tests were defined in this study as Papanicolaou tests obtained every 4 or more years. Since the number of subjects in the largest group exceeded 20, the $\underline{z}$ statistic was used to determine significance. There were no significant differences with regard to cues to action.

Table 4. Number and Percent of Agreement on Benefits to Papanicolaou Tests

Interview Question (n = 48)	Agreement (n)	%
Having a Pap test will help find abnormal cells before they actually become cervical cancer	(41)	85.4%
Having a Pap test will help find cervical cancer early	(39)	81.3%
Having a Pap test will decrease the chances of dying from cervical cancer	(38)	79.2%
Having a Pap test will decrease the chances of requiring radical surgery if cervical cancer occurs	(38)	79.2%

Barriers. Barriers that were found to have significant differences between those who do and do not have frequent Papanicolaou tests included (a) not knowing where to go for Papanicolaou tests, (b) inconvenient time, and (c) not believing Papanicolaou tests were important. The barrier "not knowing where to go for Papanicolaou tests" had a Mann Whitney U test mean rank of 29.13 for women who had not obtained a Papanicolaou test for over three years (infrequent group) compared to women who had obtained Papanicolaou tests at least every three years (frequent group) with Mann Whitney U test mean rank of 19.88 ($z = -2.58$, $p = .01$). Women who were infrequent in obtaining Papanicolaou tests more consistently agreed that not knowing where to go influenced their decision. Differences in responses between the infrequent group and

frequent group to the barrier "inconvenient time" was found to be significant with Mann Whitney U test mean rank of 28.98 for women in the infrequent group compared to Mann Whitney U test mean rank of 20.02 for women in the frequent group ($z = -2.34$, $p = .02$). Differences in responses to the barrier of "not believing Papanicolaou tests were important" was also found to be significant with Mann Whitney U test mean rank of 28.65 for women in the infrequent group compared to Mann Whitney U test mean rank of 20.35 for women in the frequent group ($z = -2.20$, $p = .03$).

Benefits. Two benefits were found to have significant differences in responses between the frequent group and infrequent group when tested with the Mann Whitney U test: (a) Papanicolaou tests help to find cervical cancer early and (b) regular Papanicolaou tests could prevent radical surgery if cervical cancer occurs. The benefit regarding Papanicolaou tests "help to find cervical cancer" early was found to have significant differences with a Mann Whitney U test mean rank of 20.56 for women in the infrequent group compared to a Mann Whitney U test mean rank of 28.44 for women in the frequent group ($z = -2.19$, $p = .03$). The benefit regarding regular Papanicolaou tests could "prevent radical surgery if cervical cancer occurs" also had significant differences with a Mann Whitney U test mean rank of 20.73 for women in the infrequent group compared to Mann Whitney U test mean rank of 28.27 for women in the frequent group ($z = -2.18$, $p = .03$). Women who obtained Papanicolaou tests frequently were more consistent in agreeing that these two benefits were important to their decisions.

It was found in this study that women under age 65 more often agreed that certain barriers influenced their decisions to have Papanicolaou tests than women 65 and older. More women under 65 years of age agreed that cost, inconvenient time, and discomfort

were barriers. In contrast, more women age 65 and older agreed that Papanicolaou testing was not important. There was no real difference in agreement regarding embarrassment and lack of insurance or worry. Numbers were too small to test statistical significance of difference (see Table 5). More women age 65 and older disagreed that certain cues to action and benefits had influenced their decisions to have Papanicolaou tests than women under age 65 (see Table 6 and Table 7).

Table 5. Comparison of Women's Responses by Age Regarding Barriers

Interview Question (n = 48)	65 and over Agreement (n) %	Under 65 Agreement (n) %
Lack of insurance coverage	(6) 12.50%	(7) 14.60%
Having a Pap test would be embarrassing	(7) 14.60%	(6) 12.50%
Costs too much	(3) 6.25%	(7) 14.60%
Having a Pap test would make me worry about cancer	(5) 10.41%	(5) 10.41%
Inconvenient time	(2) 4.16%	(6) 12.50%
Having a Pap test would be painful	(3) 6.25%	(5) 10.41%
Didn't think testing for cervical cancer was important	(5) 10.41%	(2) 4.16%

Table 6. Comparison of Women's Responses by Age Regarding Cues to Action

Interview Question (n = 48)	65 and Over Disagreement (n)	%	Under 65 Disagreement (n)	%
Someone you know, recently diagnosed with cancer, wanted you to take better care of your health	19	(39.60%)	11	(22.91%)
A family member reminded you	20	(41.66%)	15	(31.25%)
Clinic/physician/nurse recommended you have a Pap test	9	(18.75%)	6	(12.50%)

Table 7. Comparison of Women's Responses by Age Regarding Benefits

Interview Question (n = 48)	65 and Over Disagreement (n)	%	Under 65 Disagreement (n)	%
Having a Pap test will decrease the chances of requiring radical surgery if cervical cancer occurs	6	(12.50%)	1	(2.08%)
Having a Pap test will decrease the chances of dying from cervical cancer	6	(12.50%)	1	(2.08%)
Having a Pap test will help find cancer early	6	(12.50%)	1	(2.08%)
Having a Pap test will help find abnormal cells before they actually become cervical cancer	3	(6.25%)	0	(0.00%)

Other Findings of Interest

Subjects were asked to respond in their own words if anything else had strongly influenced their decisions to have Papanicolaou tests. This question yielded interesting answers. Eight subjects had been told by their health care provider that they didn't need Papanicolaou tests. Seven of these women had received a hysterectomy and one had received an oophorectomy. Not feeling anything was wrong influenced two subjects not to have Papanicolaou tests. They said they knew they would feel it if anything was wrong so they didn't need Papanicolaou tests. A desire not to know if they had cancer influenced two subjects not to have Papanicolaou tests. They stated they didn't want to know if anything was wrong. Another subject stated she was afraid because she had received a biopsy in the vaginal area many years ago that had frightened her from having future Papanicolaou tests. One subject stated her health care provider had retired and she just hadn't found another one. Another subject said procrastination prevented her from having Papanicolaou tests more frequently, and another stated she simply needed to make time for Papanicolaou tests. Five subjects stated they just didn't think they needed Papanicolaou tests.

Three subjects stated they have frequent Papanicolaou tests because they want to stay healthy. Another subject stated because she was older she believed she needed to be more diligent in obtaining frequent Papanicolaou tests. Although two subjects obtained frequent Papanicolaou tests because a family member had contracted cancer and they wanted to stay well, another subject stated she did not have Papanicolaou tests because two of her family members had contracted cancer and she was afraid. In addition, one older subject obtained Papanicolaou tests more frequently because she was elderly, while

another stated she didn't need Papanicolaou tests because she was elderly and had to die from something.

Summary

Most participants in this study agreed that four benefits had influenced their decisions regarding obtaining Papanicolaou tests including: (a) Pap tests help find abnormal cells before they become cervical cancer, (b) Pap tests help find cervical cancer early, (c) Having Pap tests could decrease chances of dying from cervical cancer, and (d) having Pap tests could prevent radical surgery if cervical cancer occurs. When the Mann Whitney U test was applied to benefits, two benefits were found to have significant differences in responses between the frequent and infrequent groups. These included the beliefs that (a) Papanicolaou tests help to find cervical cancer early, and (b) having Papanicolaou tests could prevent radical surgery if cervical cancer occurs. More women in the infrequent group disagreed that those benefits had influenced their decisions to obtain Papanicolaou tests. The majority of the sample agreed that clinic/physician/nurse recommendation had influenced their decisions regarding obtaining Papanicolaou tests. One-third of the sample agreed that media information had influenced their decisions.

Few study participants agreed that barriers had influenced their decisions. Twenty-seven percent of study participants agreed that embarrassment and lack of insurance had influenced their decisions not to obtain Papanicolaou tests, however. When the Mann Whitney U test was applied, statistically significant differences between the frequent and infrequent groups were found in relation to five barriers. These included (a) not knowing where to go for Papanicolaou tests, (b) inconvenient times, (c) Papanicolaou tests are not important, (d) Papanicolaou tests will help find cancer earlier, and (e)

Papanicolaou tests will decrease chances of radical surgery if cervical cancer occurs. The infrequent group responded more often that those barriers had influenced their decisions regarding obtaining Papanicolaou tests.

It was found in this study that women 65-years-old and older had obtained infrequent Papanicolaou tests compared to women under age 65. It was also found that women 65 and older more frequently identified certain barriers as being significant in influencing their decisions to obtain Papanicolaou tests. In addition, more women 65 and older disagreed that certain cues to action and benefits to having Papanicolaou tests had influenced their decisions.

CHAPTER 5

DISCUSSION AND IMPLICATIONS

Discussion of Findings and Conclusions

There are many women age 50 and older who do not have frequent Papanicolaou tests. In fact, many women age 65 and older have not had a Papanicolaou test since their last child was born. Women's risk for cervical cancer increases with age. Most cervical cancers grow slowly. Precancerous cells and localized cancerous cells can be identified via Papanicolaou tests before the cancer becomes invasive. This is due to an asymptomatic phase, which is usually prolonged. Therefore, annual Papanicolaou testing decreases women's risk of cervical cancer. There is a lack of consensus among health care providers regarding recommended frequency of Papanicolaou tests. Most agree that every 1 to 3 years is sufficient as long as a woman is not considered high risk. Different definitions of high risk exist and women may not admit to high-risk behavior due to the sensitive nature of this information.

In this study, to determine what influences women age 50 and older to obtain Papanicolaou tests, it was found that few study participants agreed barriers had influenced their decisions. However, when the Mann Whitney U test was applied, it was found that women who had obtained Papanicolaou tests every 4 or more years (infrequent group) agreed that certain barriers had influenced their decisions more than women who had obtained Papanicolaou tests at least every 3 years (frequent group). When the Mann

Whitney U test was applied to cues to action, no differences were found between the frequent group and the infrequent group. However, when the Mann Whitney U test was applied to benefits, the frequent group was in agreement that certain benefits had influenced their decisions more than those women in the infrequent group. Age was also found to be a factor in women's decisions with women age 65 and older being less likely to obtain frequent Papanicolaou tests.

Barriers. Barriers in this study are beliefs or perceptions women age 50 and older have regarding the negative aspects of obtaining a Papanicolaou test or impediments to obtaining a test. Barriers were not found to influence decisions about obtaining tests. The vast majority of the sample (68% - 96%) disagreed that any barrier had influenced their decisions about obtaining a Papanicolaou test. Over one-fourth of study participants (27%), however, agreed that embarrassment had influenced their decisions regarding obtaining Papanicolaou tests ($M = 2.48$, $SD = 1.29$). Although not statistically significant, this barrier is of clinical importance.

Embarrassment has been found to be a significant barrier in other studies (Arevian et al., 1997; Hoeman & Ohl, 1996; Suarez et al., 1993; White, 1995). In this study, there was not a significant difference in mean ranking of responses according to the Mann Whitney U test between women in the infrequent group and women in the frequent group regarding embarrassment. Embarrassment was also found to be more or less a barrier for a small group of women in this study regardless of their age. Some women obtained Papanicolaou tests frequently regardless of embarrassment, while others did not. The implications for health care providers are to find ways to lessen embarrassment for women obtaining Papanicolaou tests. A female health care provider

performing the pelvic examination may be part of the answer. More health teaching to increase awareness regarding women's reproductive, peri-menopausal, and postmenopausal health issues may also help to decrease embarrassment.

When the Mann Whitney U test was applied to other barriers it was found that significantly more women in the infrequent group identified certain barriers as influencing their decisions to obtain Papanicolaou tests than women in the frequent group including: (a) they didn't know where to go for Papanicolaou tests, (b) that Papanicolaou tests were offered at inconvenient times, and (c) that Papanicolaou tests were not important (see Table 8 in previous chapter). Significantly, more women in the infrequent group agreed that they did not know where to go for Papanicolaou tests. There needs to be more public information about how to obtain cervical screening so more women know where to obtain Papanicolaou tests. In addition, health care providers should encourage women to obtain Papanicolaou tests. This service should be provided in the clinical setting where women obtain other health services. Mandelblatt et al. (1993) and Weintraub et al. (1987) found in their studies that older women will obtain Papanicolaou tests if the test is offered in the primary care setting where the women receive other health services.

It was also found in this study that women in the infrequent group responded more often that Papanicolaou tests are offered at inconvenient times. Cervical cancer screenings need to be offered at times other than traditional 9 a.m. to 5 p.m. office hours. Those women who work or lack transportation during traditional hours could then access care during alternative hours.

Table 8. Mann Whitney U Comparison of Perceived Agreement with Barriers

Barrier	Group (n = 48)	Mean Rank	z value	p value
Didn't know where to go for Pap test	Infrequent Frequent	29.13 19.88	-2.58	.01
Time inconvenient	Infrequent Frequent	28.98 20.02	-2.34	.02
Perceived as not important	Infrequent Frequent	28.65 20.35	-2.20	.03

Believing the Papanicolaou test was not important was also found to be a significant barrier in other studies (Suarez et al., 1993; Sutton et al., 1994; White, 1995). According to Suarez et al. (1993), a significant barrier was feeling that the examinations were unnecessary. In White's study (1995) it was found that many older women believed they didn't need a Papanicolaou test. Sutton et al. (1994) found that many older people are not aware they should have cancer screening. There is a need for education to make women aware that anyone can contract cervical cancer and that the risk for cervical cancer increases with age. There is also a need for education regarding the fact that cervical cancer can be prevented by obtaining frequent Papanicolaou tests and by treating precancerous cells.

Cues to action. Cues to action in this study are stimuli that prompt women age 50 and older to obtain Papanicolaou tests. Cues to action can be symptoms of disease or prompting through media or through interpersonal relationships. In this study, only one cue was viewed as important by the majority (60%) of the sample. This was health care

provider recommendation. A third of the sample were influenced by media information; while only 27% agreed that someone they knew who was recently diagnosed with cancer, and wanted them to take better care of their health, was influential. Twenty-one percent responded that reminding by a family member had influenced their decision to obtain a Papanicolaou test.

Burnett et al. (1995) found that a positive patient-provider relationship and respect for clients influenced women to have cancer screenings including Papanicolaou tests. According to Allen et al. (1993), when a health care provider takes more time and addresses a woman's concerns, she is more likely to have frequent Papanicolaou tests and other preventive health services. Brown (1996) found that an important reason women do not obtain Papanicolaou tests is that their physician does not tell them they need it. Hoeman et al. (1996) found that the most important cue to action in their study was when women accessed care for obstetrical services, they received a Papanicolaou test. Women age 50 and over do not need obstetrical services and many do not obtain frequent Papanicolaou tests. Health care provider recommendation is an important factor in influencing women's decisions to obtain frequent Papanicolaou tests.

Media information was less influential in this study. Suarez et al. (1993) found in their study that newspaper information, radio information, and cable television information served as stimuli for increased numbers of persons being screened for breast and cervical cancer. Hoeman et al. (1996) found mass media to be influential in women's decisions to participate in preventive health behaviors. The media is a powerful tool that can be used to influence women's decisions to obtain frequent Papanicolaou tests. There is less hesitation now to mention women's special health needs on television, in

magazines, and in newspapers. There are advertisements for feminine products and for medications to improve sexual function. Older men and women are used as characters in these productions and articles. A similar approach could be used to promote cervical cancer screenings. This could help to decrease embarrassment while increasing knowledge. Educational programs through the media should not just be directed towards the women who need to be screened. Others who may influence women to obtain cervical cancer screening need to be educated so they can encourage women to obtain Papanicolaou tests. This could be a family member, friend, or an acquaintance. Therefore, education needs to be widespread and directed toward a diversified audience.

Twenty-seven percent of the women interviewed in this study agreed that when someone they knew had cancer and wanted them to take better care of their health, it influenced their decisions to have Papanicolaou tests. Nearly 21% of women interviewed in this study agreed that when a family member reminded them to obtain Papanicolaou tests it influenced their decisions. A study by Hoeman et al. (1996) found that husbands were significant cues to action for women to obtain Papanicolaou tests. Burnett et al. (1995) found that the influence of significant others toward having Papanicolaou tests was positively related to women obtaining Papanicolaou tests annually. Although this cue did not differentiate between women on the basis of frequency of obtaining cancer testing, it may be important to educate husbands and other family members to prompt older women to obtain frequent Papanicolaou tests.

Benefits. Benefits are defined as the beliefs or perceptions women have regarding how having Papanicolaou tests will positively affect their health. In this study benefits were perceived as significant in influencing women age 50 and over to obtain

Papanicolaou tests. The vast majority of subjects agreed that all four benefits evaluated were important to their decisions about cervical cancer testing. Only the opportunity for precancerous diagnosis and decreasing the chance of dying from cervical cancer differentiated between the frequent and infrequent groups, however. Women who obtained infrequent testing were more consistent in disagreeing that these factors were important in their decisions. The results are shown in Table 9.

Table 9. Mann Whitney U Comparison of Perceived Agreement with Benefits

Benefit	Group	Rank	Value	Value
Having a Pap test will help find cervical cancer early	Frequent	28.44		
	Infrequent	20.56	-2.19	.03
Having a Pap test will decrease the chances of requiring radical surgery if cervical cancer occurs	Frequent	28.27		
	Infrequent	20.73	-2.18	.03

These differences demonstrate that women in the less frequent group may have been less aware that precancerous cells could be detected by the Papanicolaou test. They may have been less aware that cervical cancer could be detected early and even prevented by finding precancerous cells as a result of having frequent Papanicolaou tests. There needs to be more education regarding the benefits of having frequent Papanicolaou tests including early detection, detection of precancerous cells, and decreased need for radical surgery when cervical cancer is detected early. This education needs to be directed toward all women and especially those women who do not have frequent Papanicolaou

tests. In addition, family members, friends, and the general public need to be educated so they can prompt women age 50 and older to obtain frequent Papanicolaou tests.

Systems problems. Health care providers must come to some consensus regarding recommended frequency of Papanicolaou tests with regard to women age 50 and older. Morrison (1997) found that different medical organizations recommend different screening intervals for Papanicolaou tests. Most agree that high-risk women should be screened annually with the exception of the American College of Physicians which recommends screening high risk women every 2 years. All medical organizations also agree that women who are not considered high risk should be screened at least every 3 years. Women age 65 and older and women who have received a hysterectomy are not included. There is a lack of consensus regarding whether women age 65 and older and women who have received a hysterectomy should obtain Papanicolaou tests at all.

There are two definitions of high risk according to Morrison (1997). The first definition of high risk includes: (a) women who have had multiple sexual partners, (b) women who have male sex partners who have had multiple partners, (c) women who became sexually active at an early age, (d) women with a current or past history of herpes simplex virus or human papilloma virus or condylomas, (e) women with immuno-suppression including human immunodeficiency virus infection, (f) women with sexually transmitted infections, (g) women who smoke, (h) women who abuse substances, (i) women with a history of cervical dysplasia or gynecologic malignancy, and (j) women in a lower socioeconomic group. The second definition of high risk, used by some physicians to determine frequency of Papanicolaou testing, includes: (a) women who have had multiple sex partners, (b) women who began having sexual intercourse at a

young age, (c) women who have had a sexually transmitted infection, (d) women who take birth control pills, and (e) Black, Hispanic and Native American women. These two definitions do not leave out many women in today's society. According to Morrison (1997), "recommendations from medical organizations differ regarding which risk factors are most important, probably because good outcome data are not available. When to stop Pap screening in older women is also controversial" (p. 1284).

The Cervical Cancer Control Plan for Michigan (CCCPM), which was written by the Cervical Cancer Advisory Committee at Michigan Department of Community Health (1998), states that the guidelines for Papanicolaou testing are not consistent and they are not uniform among different physician groups for women of all ages, most especially for women over 65 years of age and women who have had a hysterectomy. Unscreened populations, according to the National Institutes of Health Consensus Development Panel (NIH Consensus Development Panel, 1996), include older women, uninsured, ethnic minorities and poor women. "Although older women are screened less frequently, they have the same number of recent physician visits as younger women, which indicates the need to educate older women and their health care providers about the importance of Pap smear screening" (p. viii). The CCCPM (1998) recommends annual Papanicolaou testing because increased frequency of Papanicolaou testing will decrease false negative tests. Edelman and Mandle (1994) recommend annual Papanicolaou testing. Brown (1996) also recommends annual Papanicolaou testing.

Health care providers need to come to some consensus regarding the necessity and recommended frequency of Papanicolaou testing for women. This includes Papanicolaou testing for women age 50 and older and women who have received a

hysterectomy. According to Weintraub et al. (1987, p. 870) "elderly women are routinely omitted from screening, as it is generally believed that they usually refuse this testing." Weintraub et al. (1987) and Mandelblatt et al. (1993) found in their studies that women age 65 and over would accept Papanicolaou testing especially if it was offered by the health care provider who provided other health services. In addition, Weintraub et al. found significant abnormalities while screening women age 65 and older. Many women in Weintraub et al.'s study who had received hysterectomies did not know the reason for the hysterectomy at the time of the study. A very small number still had their cervix. None of the women in Weintraub et al.'s study who had received hysterectomies due to cancer had obtained any follow-up gynecological examinations or screenings after the hysterectomy. This demonstrates a need for frequent Papanicolaou tests for older women including those who have received a hysterectomy.

Weintraub et al. (1987) recommends Papanicolaou testing after hysterectomy, while Morrison (1997) does not. Many health care providers encourage Papanicolaou testing regardless of whether a woman has had a hysterectomy. There needs to be a standard that all health care providers follow. This standard should not be solely based on cost savings of the Papanicolaou test. Costs when the Papanicolaou test is not done and cervical cancer occurs needs to be considered as well. A clear definition of high risk needs to be developed. A method for determining if women are high risk needs to be developed, as many women will not share this kind of sensitive information with anyone. Papanicolaou testing must be offered by the primary health care provider at a convenient time and location. Health care providers must encourage women age 50 and older to obtain frequent Papanicolaou tests including women 65 years and older and those women

who have received a hysterectomy.

Age related influences. There were 14 women age 65 years and older in the less frequent group compared to 11 women age 65 and older in the more frequent group. There were 10 women under age 65 in the infrequent group, and 13 women under age 65 in the more frequent group. Four women age 65 and older had received a hysterectomy and were told they did not need to have Papanicolaou tests. Five women age 65 and older were told they should have Papanicolaou tests but were in the infrequent group. Women age 65 and older were less likely to obtain Papanicolaou tests in this study.

All women age 65 and older responded that health care recommendation had not influenced their decisions to have Papanicolaou tests. More women age 65 and older identified one barrier as having influenced their decisions to obtain Papanicolaou tests. This was that they didn't think testing for cervical cancer was important. This may indicate that the older women in this study lack knowledge regarding the importance of frequent Papanicolaou testing. This barrier has been documented in previous studies (Suarez et al., 1993; Sutton et al., 1994; White, 1995). Papanicolaou tests were introduced in the 1940s. At this time many older women were accessing health care for gynecological services during an era when Papanicolaou tests were not routinely recommended for older women. Several older women may have only had pelvic examinations during their childbearing years. Mandelblatt and Hammond (1984) found that older women in their study did not obtain Papanicolaou tests as often as younger women. They postulated this could be because the current older population of women were ending their child producing years when the Papanicolaou test first became routinely recommended. These women may not have sought gynecological care after

their reproductive years were finished.

The importance of positive relationships between a health care provider and patient in regard to women obtaining frequent Papanicolaou tests has been documented by Burnett et al. (1993). If a woman is treated badly by her health care provider she will not come back for preventive care. Many women age 65 and older do not drive. They must rely on others for transportation. There is a need for health care providers to be aware that older women may need assistance in obtaining transportation for Papanicolaou testing and other preventive care.

In this study, more women age 65 and older disagreed that three cues to action had influenced their decisions to obtain Papanicolaou tests. It has been documented that older women have fewer Papanicolaou tests. They often rely entirely on their health care provider for recommendations for preventive health care. Because there are inconsistent guidelines regarding frequency or need for Papanicolaou tests for women age 65 and over, there may have been no health care provider recommendation or conflicting health care provider recommendations. Older family members and friends of women age 65 and older would likely have similar beliefs regarding the need for frequent Papanicolaou tests since they come from the same era. There is a need for generalized education regarding the benefits for older women having frequent Papanicolaou tests.

More women age 65 and older were in disagreement with the four benefits to obtaining Papanicolaou tests than women under age 65. More women in this study age 65 and older did not understand the benefits of obtaining frequent Papanicolaou tests. There is a need for more education regarding the need for frequent Papanicolaou testing for women age 50 and older, health care providers, and for the general public.

Women between the ages of 50 and 64 more often identified certain barriers as influencing their decisions to obtain Papanicolaou tests than women age 65 and older (see Table 6). These barriers included: (a) costs too much, (b) inconvenient time, (c) having a Pap test would be painful, and (d) lack of insurance coverage. Women under 65 years of age have different needs and concerns than those women over 65 years old. They may still be caring for children or involved in a career which prevents them from accessing care during regular 9 a.m. to 5 p.m. office hours. Their time may be more limited than women age 65 and older. Most women age 65 and older have Medicare health insurance. Women under 64 do not have Medicare health insurance. Therefore, cost and lack of insurance are more important influences on their decisions to obtain Papanicolaou tests.

Other Findings of Interest

Study participants were asked if anything else had strongly influenced their decisions regarding obtaining Papanicolaou tests. Eight women (16%) in this study were told by their health care provider that they didn't need a Papanicolaou test because they had received a hysterectomy or oopherectomy. Two women in this study had obtained frequent Papanicolaou tests because a family member had contracted cancer and they didn't want to contract cancer. One woman in this study did not have Papanicolaou tests because she had family members who had contracted cancer and she was scared. She didn't want to know if she had cancer.

Over six percent of the sample stated they knew they would feel it if anything was wrong and so didn't need to have Papanicolaou tests. Five women (10.4%) in this study stated they just didn't think they needed a Papanicolaou test. Two women (4.16%) stated they didn't want to know if anything was wrong. Another stated she was afraid to obtain

a Papanicolaou test because she had experienced a problem previously. One older subject had more frequent Papanicolaou tests because she was elderly. Another older subject stated she didn't need Papanicolaou tests because she was older and had to die from something.

It is apparent that what may influence some women to have Papanicolaou tests after reaching 50 years of age may influence others not to have Papanicolaou tests. It is also apparent that there is a need for more education about cervical cancer and the importance of frequent Papanicolaou tests for women age 50 and older as well as assessment of beliefs.

Health Belief Model

This study to determine what influences women age 50 and over to obtain Papanicolaou tests found that benefits and cues to action were more important than barriers. This contrasted with the majority of studies cited in this research in which barriers were found to be significant in preventing women from having Papanicolaou tests (Arevian et al., 1997; Suarez et al., 1993; Sutton et al., 1994; White, 1995). In other studies related to women's health, Champion (1993) found both benefits and barriers to be predictive for utilization of breast cancer screening services with barriers being most significant. Rutledge (1987) found perceived benefits and barriers to be significant to BSE. Kim et al. (1991) found barriers and health motivation to be most important in explaining calcium intake and exercise behaviors in the prevention of osteoporosis. Stein et al. (1992) found perceived susceptibility to be more significant along with physician recommendation in their study regarding use of mammograms. Mandelblatt et al. (1993) found that perceived benefits and barriers were not significant in their study regarding

cervical cancer screening.

The HBM has been used effectively to study health behaviors for 40 years. Perceived benefits and perceived barriers have been found to have the greatest relationship with health promoting behaviors (Becker et al., 1977; Champion, 1993; Hiject, 1984; Kim et al., 1991; Kirscht, 1974; Leventhal et al., 1983; Rosenstock, 1974; Rutledge, 1987; & Stein et al., 1992) with barriers and benefits having more or less influence in particular studies. The HBM was helpful in organizing the framework for this study by examining barriers, cues to action, and benefits that could influence women's decisions to obtain Papanicolaou tests.

Implications for Clinical Practice

There is a need for more education for women age 50 and older, significant persons in their lives including friends, family, and others regarding the need for Papanicolaou testing for all women. There is a need for more education for health care providers regarding the need for frequent Papanicolaou tests for older women. Health care providers need to have one standard recommended frequency for Papanicolaou testing for women age 50 and older that is followed by all. Women age 50 years and older should have access to Papanicolaou testing in their primary care provider's office where they receive other health services. Annual Papanicolaou testing should be offered and encouraged by the health care provider during each visit. Health care providers need to educate women age 50 and older regarding the need for Papanicolaou tests. They should have written information regarding what the test is, how it is performed, and the benefits to obtaining frequent Papanicolaou tests. Women age 50 and older need to know that they are at risk for cervical cancer. They need to be educated to understand that they

can have cervical cancer and not be aware of it. They need to know that when a woman has cervical cancer there may not be any symptoms until the cancer is advanced. Family members, friends, and the general public need to be educated about the importance of Papanicolaou tests for older women.

Health care providers need to consistently recommend annual Papanicolaou tests. Annual Papanicolaou tests should be recommended for women age 50 and older including women over age 65. The health care provider should ask women age 50 and older why they do not obtain Papanicolaou tests. An effort must be made to assess the woman's beliefs and to understand her motivation so that she can be helped to understand the importance of cervical screening. Health care providers should try to find ways to make the testing possible. Insurance companies need to pay for Papanicolaou testing annually. Women with fewer resources often cannot afford to obtain annual Papanicolaou testing. There needs to be a payment method that can be utilized so that women without insurance can afford to obtain frequent Papanicolaou tests. Preventing cervical cancer is more cost effective than treating the disease. Papanicolaou tests need to be offered before 9 a.m., after 5 p.m., and on Saturdays so women who have other commitments during regular office hours can access care. Women without transportation may need assistance from the health care provider to find community resources that can transport them to the clinic for Papanicolaou testing. Health care providers need to spend enough time with women age 50 and older to make them feel comfortable. These women need to feel like their questions and concerns are welcome and significant. They also need to know that their health care provider cares enough about them as a patient, and that there will be an effort to problem solve with them. Because women respond in different ways to the fear

of cancer, health care providers must assess if fear is preventing frequent Papanicolaou testing. If fear is preventing frequent Papanicolaou testing, the health care provider must find ways to decrease the fear and encourage the test.

Embarrassment is a barrier to women obtaining Papanicolaou tests. The provision of Papanicolaou tests by women could minimize embarrassment. Nurse practitioners, nurse midwives, and physician assistants could be employed to provide this service. More female physicians would also help meet this need. Increased information in the media about women's health issues may help to desensitize women regarding the embarrassment associated with Papanicolaou testing and the pelvic exam. Television specials and magazine articles emphasizing the need for frequent Papanicolaou tests would be very helpful. The use of focus groups in communities might increase awareness, decrease embarrassment, and provide education. Peer educators could be trained to educate other women about the need for frequent Papanicolaou tests.

Limitations of the Study

The sample is a limitation of the study which was rural, middle class, and predominately Caucasian. The results of this study cannot be generalized to any other population. Small sample size is another limitation. Some women who were asked to participate in the study refused because they didn't believe in Papanicolaou tests. Two potential subjects were eliminated from the study after 24 interviews were completed with women who obtain frequent Papanicolaou tests. The interview tool is a limitation because it was assembled from other tools for this study and had not been tested in the present format. The questions on the interview tool did not include the words "and this influenced my decisions." This would have been helpful to the subjects in keeping the

focus on the need to give information based on what had influenced their decisions not based on their education or knowledge. Questions regarding barriers were grouped together. Questions regarding cues to action were grouped together, and questions regarding benefits were grouped together. It may have been beneficial to intermingle questions. Selection of subjects included referral from the physician at the clinic when he became aware a subject had not had a Papanicolaou test in 4 or more years. Thus, sample selection was not random. Subject education level and income level was not included in the interview. This could be a limitation when comparing the data from this study to data from other studies. There was no question in the interview regarding preference for a woman performing the Papanicolaou test rather than a man. There was no question regarding whether the healthcare provider had recommended frequent Papanicolaou tests. Some women offered the information that a recommendation had or had not been made, but this question was not asked specifically. There was no question regarding whether a woman had received a hysterectomy. In addition, Papanicolaou test frequency was self-reported and could have been inaccurate.

Suggestions for Further Research

More research needs to be done using a much larger sample so that multivariate analysis could be conducted to better identify those factors that differentiated between the frequent and infrequent groups. Further research should be done in different areas of the country including all ethnic and socioeconomic groups to determine what influences older women's decisions regarding obtaining Papanicolaou tests. In addition, recommended frequency of Papanicolaou testing for women age 50 and older needs further study. More research must be done to document the need for frequent

Papanicolaou testing for women after 65 years of age and for women who have received a hysterectomy. There needs to be further studies to determine if recommendation should be made for more frequent or less frequent Papanicolaou testing based on risk factors because many women will not divulge this type of sensitive information. These studies must look at morbidity, mortality, and the costs incurred in this age group when cervical cancer is not found early compared to the cost of annual Papanicolaou tests. Cost of annual Papanicolaou tests should not be the single deciding factor.

Appendix A

I give consent for interviews to be done on women age fifty and over at Memphis Medical Center. I understand that the information obtained regarding women's decisions to have, or not to have, regular Pap smears will be anonymous and confidential. There will be no cost to the women. Participation will be on a strictly voluntary basis. Study results will be available to all participants.

Larry Gideon, M.D.

3/11/99
Date

Appendix B

LAPEER COUNTY HEALTH DEPARTMENT

1575 SUNCREST DRIVE • LAPEER, MICHIGAN 48446
810-667-0391 • FAX 810-667-9399

March 1, 1999

Mrs. Dorothy Hicks-Burchwell
2094 Koeran
Lapeer, MI 48446

Dear Mrs. Hicks-Burchwell:

Thank you for your recent request for permission to complete client interviews during the upcoming Healthorama event to be held on March 20, 1999 sponsored by Lapeer County Health Department, among others and held at Lapeer County Vocational Technical School.

It is our understanding that the purpose of the client interviews is for completion of research towards requirements for a masters degree and will not be used for financial gain.

The Department has reviewed the informed consent form and questionnaire. Provided that you secure signed informed consent forms from each client you will be interviewing during the event, and utilize the questionnaire, the Health Department, to the extent we are legally authorized, extends permission to carry out client interviews.

Sincerely,

[redacted]

John D. Niederhauser, MPH
Director/Health Officer

Appendix C

LAMB-STEELE MEMORIAL
(313) 724-6030 • (313) 667-0940

395 E. THIRD STREET
IMLAY CITY, MI 48444

LAPEER COUNTY DEPARTMENT OF SENIOR ACTIVITIES

February 19, 1999

Dorothy Hicks-Burchwell
2094 Keeran Dr.
Lapeer, MI 48446

Dear Dorothy,

Pursuant to our telephone conversation regarding the survey you wish to conduct with some of our clients. I did review the draft copy of the survey that you had sent and also spoke to several of our clients to see if they would be interested in participating in the survey. I have to date seven (7) clients who are interested and give permission for you to interview them.

For your convenience you may do the interviews at our Lapeer Center. Just let me know in advance the date and time. If you should have any questions/concerns please feel free to contact me at (810)724-6030 or (810)667-0940.

Sincerely,

[redacted]

Jan Coffey, Director

Appendix D

Date

Dear :

My name is Dorothy Hicks-Burchwell. I am a Certified Nurse Practitioner working on a Master of Science Degree in Nursing. I am doing a study to find out the things that make it difficult for women over 50 to get Pap tests. The answers you can give will help us to better meet the health needs of women. Your participation in this study is strictly voluntary, but I hope you will sit down and take a few minutes to answer some questions I will be asking you.

The information you give me will help us understand why some women do not have regular Pap tests. Your responses will be anonymous. All information will be confidential.

Thank you in advance for your assistance. You will help make a difference in the delivery of women's health care by helping us understand the problem better.

If you have any questions about the study, you may call me at (810) 664-5048 or (810) 392-2192.

Sincerely,

Dorothy Hicks-Burchwell, R.N.C., W.H.N.P.

If you have any questions about your rights as a subject in a study, you may contact Dr. Paul Huizenga, Chair of the Human Research Review Committee at Grand Valley State University (616) 895-2472.

Appendix E

INFORMED CONSENT FORM

I understand that this study is of the factors which influence a woman's decisions whether to have, or not to have, regular Pap tests. The women in this study will be 50 years of age or older. The knowledge gained from this study is expected to help nurses and physicians to provide Pap tests in a manner which will be responsive to the needs of women 50 years of age and over.
I also understand that:

1. Participation in this study will involve a 15-minute interview regarding what influences my decisions regarding having Pap tests.

2. That I have been selected for participation because I am a woman age 50 or over.

3. It is not anticipated that this study will lead to physical or emotional risk to myself and it may be helpful to talk to someone about why I do or do not have regular Pap tests.

4. The information I provide will be kept strictly confidential and the data will be coded so that identification of individual participants will not be possible.

5. A summary of the results will be made available to me upon my request.

I acknowledge that:

"I have been given an opportunity to ask questions regarding this research study, and that these questions have been answered to my satisfaction."

"In giving my consent, I understand that my participation in this study is voluntary and that I may withdraw at any time using the postcard provided by Dorothy Hicks-Burchwell, without affecting the care I receive from my physician or the staff at Memphis Medical Center."

"I hereby authorize the investigator to release information obtained in this study to scientific literature. I understand that I will not be identified by name."

"I have been given the phone numbers of the researcher and the chairperson of the Grand Valley State University Human Research Review Committee. I may contact them at any time if I have questions."

I acknowledge that I have read and understand the above information, and that I agree to participate in this study.

_____	_____
Witness	Participant's Signature
_____	_____
Date	Date

_____I am interested in receiving a summary of the study results.

Appendix F

Code #_____

What Affects Women's Decisions to Have Regular Papanicolaou Tests?

(Interviewer: Read the following instruction SLOWLY)

Regular Papanicolaou (Pap) tests as defined in this study are Pap tests that are done annually.

I am going to ask you some questions about your past frequency of having Pap tests and why you chose to have or not to have Pap tests. There are no right or wrong answers. Everyone has different experiences which will influence how she feels. After I read each statement, tell me if you STRONGLY DISAGREE, DISAGREE, are NEUTRAL, AGREE, OR STRONGLY AGREE with the statement. I will give you a card with these five choices written on it. When I read a statement to you, tell me which of the five choices is your choice.

It is important that you answer the way you believe and not the way you think you should believe or how you think I may want you to answer. I need your answers to best explain how you feel.

PLEASE ANSWER THE FOLLOWING QUESTIONS INDICATING HOW IMPORTANT EACH FACTOR LISTED BELOW WAS IN YOUR DECISIONS TO HAVE OR NOT TO HAVE A PAP TEST.

STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE	
SD	D	N	A	SA	1. Didn't know about Pap tests.
SD	D	N	A	SA	2. Didn't know where to go for Pap tests.
SD	D	N	A	SA	3. Bad treatment by health care staff in the past.
SD	D	N	A	SA	4. Costs too much.
SD	D	N	A	SA	5. Did not have insurance coverage.
SD	D	N	A	SA	6. Transportation not available.

SD D N A SA 7. Inconvenient location.

SD D N A SA 8. Inconvenient time.

SD D N A SA 9. Procedures take too much time.

SD D N A SA 10. Did not think testing for cervical cancer was important.

SD D N A SA 11. Having a Pap test would make me worry about cancer.

SD D N A SA 12. Having a Pap test would be embarrassing.

SD D N A SA 13. Having a Pap test would be painful.

SD D N A SA 14. I have a disability that would make it impossible to have a Pap test. (Please explain)_____

_____

SD D N A SA 15. Television program, newspaper article, radio advertisement, or other media information about the need for Pap tests.

SD D N A SA 16. Clinic/physician/nurse recommended you have a Pap test.

SD D N A SA 17. Someone you know, recently diagnosed with cancer, wanted you to take better care of your health.

SD D N A SA 18. A family member reminded you.

SD D N A SA 19. Having a Pap test will help find cervical cancer early.

SD D N A SA 20. Having a Pap test will decrease the chances of dying from cervical cancer.

SD D N A SA 21. Having a Pap test will decrease the chances of requiring radical surgery if cervical cancer occurs.

SD D N A SA 22. Having a Pap test will help find abnormal cells before they actually become cervical cancer.

SD D N A SA 23. Other (Please specify)_____

_____

24. Please tell me your race.

(1) African American (3) Asian (5) Hispanic

(2) American Indian (4)Caucasian (6) Other

25. Have you ever had a Pap test?

(1) Yes (2) No

26. How often have you had a Pap test in the past ten years?

(1) Never (2) Every year (3) Every two to three years (4) Every four or more years

Appendix G

GRAND VALLEY STATE UNIVERSITY

1 CAMPUS DRIVE • ALLENDALE MICHIGAN 49401-9403 • 616/895-6611

November 22, 1999

Ms. Dorothy Hicks-Burchwell
2094 Keeran Dr.
Lapeer, MI. 48446

Dorothy

Dear Ms. Hicks-Burchwell,

Thank you for your interest in the Osteoporosis Health Belief Scale (OHBS). You have my permission to use some the wording for the directions for administering your instruments. You may also use and modify some of the questions from the instrument so that they will be relevant for decision making regarding Papnicolaou Tests.

I wish you much success with your study.

Sincerely,

[redacted]

Phyllis Gendler, PhD, RN, CS, FNP, GNP
Professor
Kirkhof School of Nursing
Grand Valley State University
Phone: 616-895-3516
E-mail: gendlerp@gvsu.edu

Appendix H

INDIANA UNIVERSITY

SCHOOL OF NURSING

November 24, 1997

Dorothy Hicks-Burchwell
2094 Keeran Dr.
Lapeer, MI 48446

Dear Ms. Hicks-Burchwell,

I have enclosed a copy of my Health Belief Model and other requested materials. You have my permission to use these materials. I only require that you send me a copy of the completed results.

Sincerely,

[redacted]

Victoria L. Champion, RN, DNS, FAAN
Professor and Associate Dean for Research
Mary Margaret Walther Named Professor

wpdocs\vc\instr.ltr

CENTER FOR NURSING RESEARCH

1111 Middle Drive
Indianapolis, Indiana
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317-274-7627
Fax: 317-278-2021

Located on the campus of
Indiana University
Purdue University
Indianapolis

Appendix I

GEORGETOWN UNIVERSITY MEDICAL CENTER

LOMBARDI CANCER CENTER
Research • Education • Treatment

DIVISION OF CANCER PREVENTION AND CONTROL

2233 WISCONSIN AVENUE NW
SUITE 400
WASHINGTON, DC 20007
TELEPHONE: (202) 687-0800
FAX: (202) 687-0651

Offices in
Washington, DC
Rockville, MD
Arlington, VA

November 5, 1997

Dorothy Hicks-Burchwell, RNC, MA
2094 Keeran Drive
Lapeer, MI 48446

Dear Mrs. Hicks-Burchwell:

I would like to thank for your interest in my instrument entitled, "Barriers to Breast and Cervical Screening." If you decide to use any or all of the instrument please forward your results of the analysis of validity and reliability to me.

I would be interested in your findings, so please feel free to send me a copy of your thesis or manuscript.

Sincerely,

[redacted]

Caroline Burnett, Sc.D., R.N.

Appendix J

GRAND VALLEY
STATE UNIVERSITY

1 CAMPUS DRIVE • ALLENDALE, MICHIGAN 49401-9403 • 616/895-6611

March 11, 1999

Dorothy Hicks-Burchwell
2094 Keeran Drive
Lapeer, MI 48446

Dear Dorothy:

Your proposed project entitled "***A Study to Determine Why Some Women Over Age Fifty Decide not to have Regular Papanicolaou Tests***" has been reviewed. It has been approved as a study which is exempt from the regulations by section 46.101 of the Federal Register 46(16):8336, January 26, 1981.

Sincerely,

[redacted]

Paul Huizenga, Chair
Human Research Review Committee

LIST OF REFERENCES

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