Dissertations

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A Study to Determine Factors that Inhibit Compliance with Engaging in Recommended Papanicoaou Smear Screenings in African American Women

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A STUDY TO DETERMINE FACTORS THAT INHIBIT COMPLIANCE

WITH ENGAGING IN RECOMMENDED PAPANICOAOU SMEAR

SCREENINGS IN AFRICAN AMERICAN WOMEN

by

Valecia Gail Carter

Abstract of a Dissertation
Submitted to the Graduate Studies Office
of The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

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ABSTRACT

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Papanicolaou (Pap) smear screenings help to detect abnormal cervical cells in the cervix. African American women are usually diagnosed in the later stages of cervical cancer. The purpose of this study was to determine factors that inhibit compliance with Pap smear screening in African American women.

Ninety-three African American women ages 18 or older, attending an urban health clinic participated in this descriptive design study to answer three research questions: 1) What factors inhibit compliance with recommended Pap smear screening in African American women age 18 or older? 2) Is there a difference between participants who attended the mobile clinic and the land based clinic on the four identified subscales of cost, convenience, negative emotions, and misinformation or knowledge? 3) Is there a significant relationship between Pap smear screening compliance and age, income, number of births, number of children, or distance? Participants received care at either the land-based clinic or the

mobile site clinic. Participants completed the Pap Smear Attitudinal Barriers Questionnaire (PSABQ) and a brief demographics questionnaire. The Health Belief Model (HBM) was the theoretical framework for this study.

Descriptive statistics for frequencies and percentages, t-tests and Chi square analysis were utilized in this study. This study identified cost as the most frequent barrier and knowledge as the second most frequent barrier. There was a significant difference in the identification of cost and knowledge as a barrier by land-based versus mobile clinic site participants. A Chi square analysis showed a significant association between Pap smear screening compliance and age and distance from the clinic. A statistically significant relationship was found between land-based participants' Pap smear screening compliance and number of children given birth to, and mobile participants' Pap smear screening compliance and age, number of children given birth to and number of children living in the home.

This study supports recommendations for teaching patients about Pap smear screenings and the accessibility of affordable Pap smear screenings, increased marketing of the availability of low or no cost Pap smear screenings, as well as the need to obtain demographic information that adversely effects Pap smear screening compliance in African American women.

The University of Southern Mississippi

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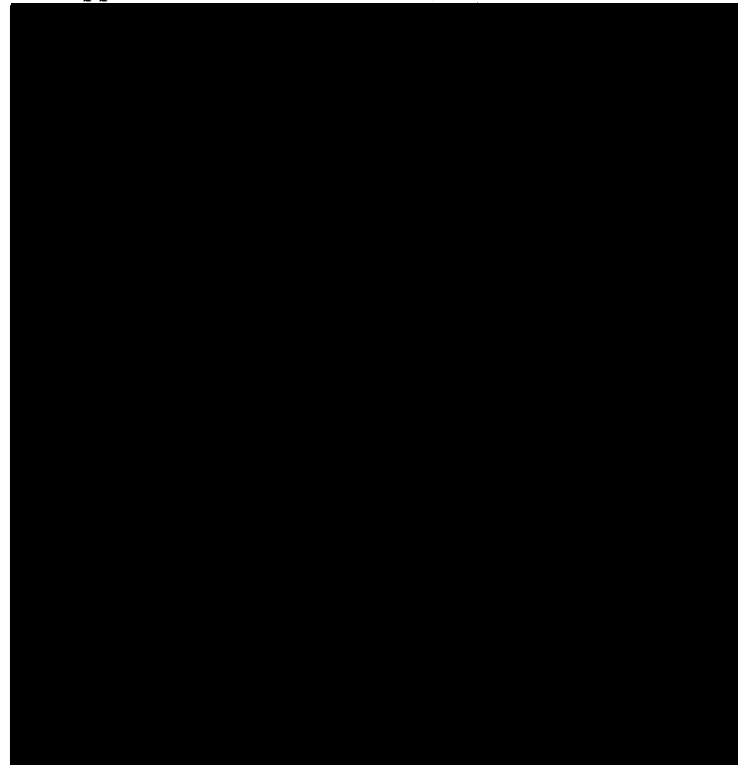
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DEDICATION

This dissertation is dedicated to the memory of my nephew Gregory Carter Jones who died at the hands of a drunk driver while I was working on this project. Please, for Gregory's sake, don't drink and drive.

ACKNOWLEDGMENTS

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CHAPTER I

INTRODUCTION

Each year, approximately 15,000 American women are diagnosed with

cervical cancer (National Institutes of Health, 2002). Moreover, each year, 13,000

American women are diagnosed with invasive cervical cancer (Hoyo et al. 2005),

resulting in 5,796 cervical cancer related deaths (Sherris, Castro, Levin, Dzuba,

& Arrossi, 2004). Treatment of cervical cancer is not only a national challenge,

but a global challenge (Ashing-Giwa et al., 2004). If every woman adhered to

recommended Pap smear screenings, at least half of precancerous incidents

could be treated prior to the development of cancer (Hewitt, Devesa, & Breen,

2004; National Institutes of Health, 2002), and 90% of cervical cancers could be

avoided all together (Van Til, Macquarrie, & Herbert, 2003). The Pap smear is

the method used for early detection of cervical cancer and can prevent many

metastatic or invasive cancerous conditions. Early detection results in effective

treatment during a curable stage, with the end result of decreasing morbidity and

mortality related to cervical cancer (Wilson & Orians, 2005; National Institutes of

Health, 2002). As women usually remain symptom free until cancerous cells

invade other nearby healthy tissue, the Pap smear test is extremely important in

detecting this deadly disease when it is in a highly curable stage (National

Institutes of Health, 2002). Therefore, it is imperative that research be

conducted to determine predictors that inhibit compliance with receiving Pap

smear screenings as recommended.

Failure to receive Pap smear screenings as recommended come at an alarming cost. A review of the literature supports the benefits of recommended Pap smear screenings as life-saving while identifying that one-third of women eligible for the Pap smear are not screened as recommended. This leads to a diagnosis in the later, more advanced stages of cervical cancer (National Cancer Institute, 2003). There is an astronomical economic cost of cervical cancer when it is not detected in an earlier stage (Mullins, 1999).

The earlier cancer is detected, the less expensive the cost (Mullins, 1999). According to the National Cancer Institute (2005), the cost of cancer treatment was $74.1 billion in 2004. This is slightly less than 5% of the total cost of medical treatment in the United States. Between the years 1995 and 2004, this represents a 75% increase of overall cancer treatment costs. Of that $74.1 billion, $1.7 billion was spent on cervical cancer alone. This is equivalent to 2.4% of all cancer treatment expenditures. Also, in 2004, the average Medicare payment for each woman in the first year following the diagnosis of cervical cancer was $20,100 (National Cancer Institute, 2005). The astronomical cost of cancer is largely related to the lateness of cancer diagnosis. The earlier cancer is detected, the more likely costs can be decreased. Furthermore, costs for those who die from more advanced cancer is much more significant than costs related to those who survive cancer (Mullins, 1999).

The cost of cervical cancer is not only monetary. Additionally, there is the cost of female suffering, family cost, stress from costs of medical bills and medication, fear of death, anxiety, and social costs, including but not limited to,

school and job absences, changes in life activities, and child care issues. Furthermore, there are work related costs, such as decreased productivity, loss of job, and reduction and loss of job benefits. Even when the individual afflicted with cervical cancer has health insurance, the uncovered, related cost can be as much as 50% of the family's total income (Sherris et al., 2004).

Health economists agree that cervical cancer screening is very cost-effective. This is based on the belief that any screening intervention that saves one year of life for less than a sum of $50,000 is cost-effective. A Pap smear screening once every 3 years is believed to extend life for approximately $5,392 each year of life saved (United States Department of Health and Human Services, 2005).

The most significant costs are in the morbidity and mortality rates associated with cervical cancer. Approximately 13,000 cases of cervical cancer are diagnosed in the United States each year resulting in morbidity or mortality (Hoyo et al., 2005). In 2002, there were 5,796 deaths in the United States related to cervical cancer (Sherris et al., 2004).

Statistics show that this deadly disease has a much higher mortality rate in African American women (Centers for Disease Control, 2007; Howell, Chen, & Concato, 1999). According to Walker, Figgs, and Zahm (1995), between the years 1987 and 1991, the mortality and incidence rates for certain cancers, including cervical cancer, were much higher for African Americans. Between the years, 1976 and 1997, the African American mortality rate related to cervical cancer rose by 10% (Ashing-Giwa et al., 2004).

Jibaja-Weiss, Volk, Kingery, Smith and Holcomb (2003) reported that minority women are diagnosed with cervical cancer in later advanced stages when the cancer is too advanced for effective treatment. Saunders (1989) also states that women of ethnic groups are usually diagnosed with cervical cancer in the later stages. Morgan, Benjamin, Berlin, King and Rubin (1996) also found that the survival rate for African American females diagnosed with cervical cancer is significantly lower than it is for Caucasian females. Furthermore, statistics gathered in one study show that this deadly disease has a much higher mortality rate in African American women. The study attributes this disparity to socioeconomic status and the stage at which African American women are diagnosed with cervical cancer (Howell et al., 1999). A result from a study by Samelson, Speers, Ferguson, and Bennett (1994) suggested that African American females have a higher rate of death, at every age level, related to cervical cancer. Furthermore, Hoyo et al. (2005) identifies middle-aged African American females as having the highest mortality rate and incidence of cervical cancer, and the lowest rate of adherence to Pap smear screening in the United States. Adherence to Pap smear screening guidelines is essential to reducing mortality related to cervical cancer (Auguston, Vadaparampil, Paltoo, Kidd & O'Malley, 2003).

According to the Centers for Disease Control, African American women had the highest incidence and mortality rate related to cervical cancer in 2001, and from 1992-2000, these women were very unlikely to survive the cervical cancer diagnosis after five years, when compared to their Caucasian

counterparts (Centers for Disease Control, 2005b). The most recent data from the Centers for Disease Control report that of the 11,820 women in the United States diagnosed with cervical cancer, 1,902 are African American women. Of the 3,919 women that died from cervical cancer, 794 were African American. Therefore, African American women had the greatest morbidity and mortality rate related to cervical cancer of ethnic women diagnosed with cervical cancer (Centers for Disease Control, 2005a). Therefore, delineating factors that contribute to noncompliance with obtaining recommended Pap smear screenings in African American women are vital to decreasing this disparity.

In an effort to decrease this disparity, factors that inhibit compliance with Pap smear screening were identified and discussed. The literature identifies health beliefs (Carpenter, 2005; Harlan, Bernstein & Kessler, 1991; Lee, Seow, Ling & Peng, 2002) being underinsured, or uninsured (Behbakht, Lynch, Teal, Degeest & Massad, 2004; Harlan et al., 1991; Simoes et al., 1999), being poor (Austoker, 1994; Boonpongmanee, 2006; Jibaja-Weiss, Volk, Kingery, Smith & Holcomb, 2003;), fearful and embarrassed (Austoker, 1994; Fernandez, Tortolero-Luna, & Gold, 1998; Kahn et al., 1999; Neilson & Jones, 1998), obese (Fontaine, Moonseong & Allison, 2001; Lubitz, Litzelman, Dittus, & Tierney, 1995; Wee, McCarthy, Davis & Phillips, 2000), finding the Pap smear to be painful (Hoyo et al., 2005; Kahn, Goodman, Huang, Slap, & Emans, 2003; Kahn et al., 1999; Van Til et al., 2003), lack of knowledge regarding the need for or the importance of the Pap smear screening (Behbakht et al., 2004; Boonpongmanee, 2006; Bowman, Sanson-Fisher, Boyle & Pope, 1995; Camm, 2005; Deschamps

et al., 1992; Fernandez, Tortolero-Luna & Gold, 1998; Jennings-Dozier & Lawrence, 2000; Kahn et al., 1999; Neilson & Jones, 1998), the lack of a usual health care provider (Bazargan, Bazargan, Farooq & Baker, 2004; Mandelblatt et al., 1999; Owusu et al., 2005; Selvin & Brett, 2003), being older (Boonpongmanee, 2006; Bowman et al., 1995; Brooks, 1996; Jennings-Dozier & Lawrence, 2000; Maxwell, Bancej, Snider, & Vik, 2001; Simoes et al., 1999), having a lower level of education (Behbakht et al., 2004; Jennings-Dozier & Lawrence, 2000; Maxwell et al.,2001; Simoes et al., 1999), lack of access (Agurto, Bishop, Sanchez, Betncourt & Robles, 2004; Maxwell, et al., 2001), and costs associated with the Pap smear screening (Bazargan et al., 2004; Boonpongmanee, 2006; Hoyo et al., 2005; Simoes et al., 1999) as influential factors in Pap smear screening compliance.

When women are compliant with Pap smear screenings, cervical cancer can be diagnosed when it is localized, and when there is an estimated 90%, five-year survival rate. However, a little more than 50% of cervical cancers are diagnosed while localized. The percentage is even lower for African Americans (Ell et al., 2002; Manfredi et al., 1998). Interestingly, much of the noncompliance with Pap smear screening is associated with women who have never received a Pap smear screening. In the United States, as much as 94% of women have been identified as never having had a Pap smear screening. The literature further identifies that African American women are most likely to be identified as never having a Pap smear screening, and this increases for African American women with low incomes. Norman, Talbott, Kuler, Krampe, and Stolley (1991) identifies

Caucasian women as more likely than African American women to have a Pap smear screening in the last three years.

.   Problem Statement

Disproportionately, African Americans have a higher incidence of cancer than all other ethnic or racial groups and have a 33% higher chance of dying from cancer than their Caucasian counterparts. African Americans are twice as likely to die from cancer than any other ethnic or racial group. African Americans have a disproportionately higher mortality rate from cancer of the cervix and a number of other cancers than other ethnic or minority groups (Shavers & Brown, 2002). Jibaja-Weiss et al. (2003) reports higher mortality rates among ethnic and racial groups in relation to cervical cancer. This disparity is attributed to the diagnosis of cervical cancer in an advanced stage in minorities. It is suspected that the cause of this later stage diagnosis is related to under utilization of the Pap smear screening test in minorities (Shavers & Brown, 2002), because minorities are not receiving the benefits of the Pap smear screening (Jibaja-Weiss et al., 2003). Wilson & Orians (2005) agree that African American women are under screened for cervical cancer. Yet, Harlan, Bernstein, and Kessler (1991) purported that African American women are screened at a higher rate, and that Caucasians have a lower rate of mortality related to cervical cancer. This inequity is attributed to the possibility that African American women do not receive recommended follow-up (after an abnormal initial finding) Pap smear screenings (Harlan, Bernstein & Kessler, 1991). Auguston, Vadaparampil, Paltoo, Kidd, and O'Malley (2003) state that it is imperative that cancer screening

guidelines be followed to benefit from the effectiveness of the screening tool that can reduce mortality related to cervical cancer.

Barriers to cervical cancer screening, that is, barriers to obtaining the Pap smear screening test, frequently result in cancers of an invasive or advanced nature. These barriers often impede minority populations of women from the benefits of early detection. This is especially prevalent in the African American population. It is imperative that healthcare providers understand the factors that inhibit African American women's adherence to recommended Pap smear screening. This information will assist healthcare providers in the development of protocols, standards and systems that will increase compliance, thereby increasing the early detection and treatment of this highly curable, yet costly, disease.

Research Questions

What factors inhibit compliance with recommended Pap smear screening in African American women age 18 or older? Is there a difference between participants who attended the mobile clinic and the land based clinic on the four identified subscales of cost, convenience, negative emotions, and misinformation or knowledge? Is there a significant relationship between Pap smear screening compliance and age, income, number of births, number of children, or distance?

Purpose of the Study

The purpose of this study is to identify factors that inhibit compliance with recommended Pap smear screening in African American women. The expectation is that the most prominent factors affecting engagement in the health

promotion behavior of receiving recommended Pap smear screenings will be identified. Identification of these factors will aid in the development of appropriate interventions to increase this health promoting behavior in African American women, who traditionally have a higher morbidity and mortality rate related to cervical cancer.

The variables to be studied include perceived susceptibility, perceived seriousness and perceived benefit, which includes knowledge regarding Pap smear screening, impediments to scheduling and attending scheduled Pap smear screenings, and attitude toward the importance of Pap smear screening, perceived barriers which include cost or economics, access to care, and psychosocial factors. Age, annual income, distance from the care site, the number of children given birth to, and the number of children living in the home will also be identified. It is believed that these factors influence client behaviors or cues to action, in regards to receiving recommended Pap smear testing.

Conceptual Framework

The theoretical base for this study is Becker's Health Belief Model (1974). Becker's Health Belief Model is a systematic model that attempts to explain and predict health related behavior. Originally, this model focused on health practices, health behaviors and utilization of health services. The model has been expanded to include general health motivation. This model combines the client's beliefs and attitudes, which include the client's interest in health matters, how vulnerable a client feels toward a particular disease, and how severe the client perceives the threat of that disease, the client's perception of benefits

versus costs, inconvenience and/or health promotion risks, and factors that motivate the client to take actions (Becker, 1974).

The Health Belief Model explains behavior as a product of the value a person places on a certain outcome, and the person's belief that a certain behavior or action will facilitate that desirable outcome. According to the Health Belief Model, providing information increases the person's understanding of perceived susceptibility to a disease and perceived benefits from an action, such as a health-seeking behavior; in this case, a Pap smear screening. The Health Belief Model also supports the removal of barriers to increase self-efficacy, which will therefore lead to behavior change. This behavior change should occur when symptoms and/or illness are absent.

A cue or trigger is needed to motivate the person to engage in the new behavior. A cue can be internal (such as a belief or attitude) or external (such as, health education). If a person does not encounter a cue, or a motivator, this is a barrier. This study will help to identify barriers that inhibit compliance with Pap smear screening in African American women.

Becker's Health Belief Model (See Figure 1) identifies individual perceptions as perceived susceptibility to Disease "X" and perceived seriousness (severity) of Disease "X". For the purpose of this study, Disease "X" is cervical cancer. According to the model, modifying factors affect individual perceptions. Modifying factors include demographic variables such as age, sex, race and ethnicity, which will be identified in the study. Sociopsychological variables include personality, social class, and peer and reference group pressure. This

study will identify social class by identifying an income range. Structural variables include knowledge about the disease, and prior contact with the disease. The subjects' knowledge about risks for cervical cancer, and the importance of and appropriate screening intervals for Pap smear screening will be obtained in the study.

According to Becker's Health Belief Model, these four constructs, perceived susceptibility, perceived severity, perceived benefits and perceived barriers are cues to action for the individual client who has self-efficacy, that is, the person believes she can engage in the preventative behavior. In this study, when the subject is 'cued to action' she actually obtains the recommended Pap smear screening test.

Theoretical and Operational Definitions

For the purpose of this study, the following variables studied are defined.

Economics

Theoretical: The participant feels or believes she has enough money to pay for a Pap smear screening visit, which includes the full cost of the visit for an uninsured client, and/or a required co-insurance payment. Operational: This variable will be measured by participants' self-report on the Pap Smear Attitudinal Barriers Questionnaire.

Access to care

Theoretical: The participant's ability to physically go to a place to receive a Pap smear screening, it includes transportation to a Pap smear screening and

ability to travel the distance to the nearest facility providing Pap smear screening. It also includes being able to get off from work when the facility is open. Operational: This variable will be measured by participants' self-report on the Pap Smear Attitudinal Barriers Questionnaire.

Psychosocial factors

Theoretical: This refers to internal motivators such as fear, attitude, and personal beliefs. This includes the participant's preference for a female or male health care provider. Operational: This variable will be measured by participants' self-report on the Pap Smear Attitudinal Barriers Questionnaire.

Knowledge

Theoretical: This refers to having the information regarding the importance of and/or need to obtain a recommended Pap smear screening. Operational: This variable will be measured by participants' self-report on the Pap Smear Attitudinal Barriers Questionnaire.

Attitude

Theoretical: This refers to the participant's belief regarding the need and/or importance of obtaining a recommended Pap smear screening.

Operational: This variable will be measured by participants' self-report on the Pap Smear Attitudinal Barriers Questionnaire.

Assumptions

The following premises are assumed for this study: Subjects, being guaranteed confidentiality and anonymity, will openly and honestly report barriers to engaging in recommended Pap smear screenings.

Figure 1.

Conceptual Model

Health Belief Model

INDIVIDUAL PERCEPTIONS   MODIFYING FACTORS   LIKELIHOOD OF ACTION

Age, sex, ethnicity Personality Socio-economics Knowledge	→	Perceived benefts versus barriers to behavioural change

Perceived susceptibilty/ seriousness of disease	→	Perceived threat of disease	→	Likelihood of behavioural change

Cues to action
- education
- symptoms
- media information
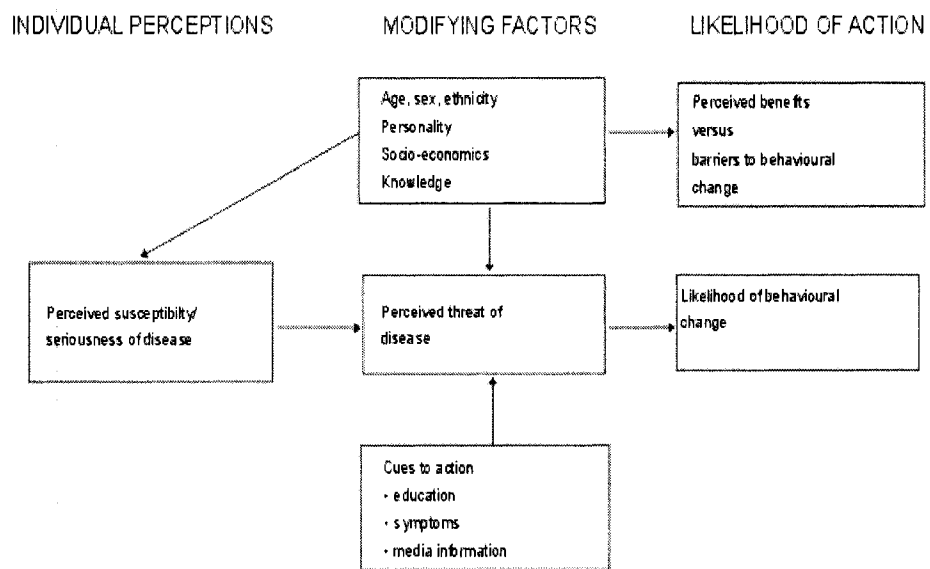
Source: Glanz, K., 2002, p. 52

As the Pap Smear Attitudinal Barriers Questionnaire has high reliability and validity, it provided accurate data regarding barriers to engaging in recommended Pap smear screenings.

Limitations

The following limitation is described for this study: The use of a convenience sample from one geographic area limits the generalization of study findings. The use of one specific target population limits the generalization of study findings. The fact that participants of the study were accessed through a healthcare clinic may effect the study findings and therefore the generalization of the study findings. A substantially lower number of mobile site participants verses land-based site participants also limit the generalization of the study findings.

Scope and Delimitations

This study involves African American females, 18 years of age or older, with no history of having had a hysterectomy, which involved the removal of the cervix. The reason for emphasis on this population is that African American women have a much higher morbidity and mortality rate as a result of cervical cancer diagnosis in the later stages as opposed to their Caucasian counterparts (Howell et al., 1999).

The Significance of the Study

Nurses are expected to promote behaviors that decrease health risks. In order to fulfill this role, or function, nurses need to understand from clients, what factors inhibit their ability to engage in health promotion behaviors. Research is

needed to understand from clients, factors that increase the risk of Pap smear screening noncompliance to enable nurses to develop appropriate interventions. Cervical cancer is the most treatable form of cancer in women. However, the rate of treatment success goes up immensely when this form of cancer is detected in the early, curable stages. The means of detecting cervical cancer in its early, curable stages is the Pap smear screening or test (National Institutes of Health, 2002). One-third of eligible women do not receive this life saving test (National Cancer Institute, 2003). It is imperative that factors that inhibit or facilitate the use of this test as recommended are identified. Failure to identify and intervene leads to immeasurable morbidity and mortality costs. The rate of morbidity and mortality is the highest in ethnic groups (Howell, Chen, & Concato, 1999), thereby signifying the importance of this study.

This study generates knowledge regarding factors that inhibit Pap smear screening compliance in African American women. Professionally, this information can be applied to nursing practice in any healthcare setting. Nurses can use the results of this study to develop appropriate interventions that will increase compliance with Pap smear screenings, thereby, decreasing morbidity and mortality related to cervical cancer in African American women. A decline in morbidity and mortality related to cervical cancer will significantly decrease the emotional and monetary cost placed upon society, individuals, and families when these individuals are treated retroactively.

Summary

This study attempts to determine factors that inhibit compliance with engaging in Pap smear screening by African American women. Chapter Two provides a detailed review of the literature on cervical cancer, the importance of early detection of cervical cancer, Pap smear screening, identified barriers that inhibit compliance with Pap smear screening and the effects of cervical cancer on African American women and society as a whole. Chapter Three discusses the research design and approach. Chapter Four reviews the findings,data analysis and interpretation. Chapter Five provides a brief overview of the study, and a brief summary of the findings including significance of the study, limitations of the study, and indications for future studies.

CHAPTER II

REVIEW OF LITERATURE

Introduction

This literature review began with a computer search. Initially, a search of the CINAHL database for the years 1982-2004, using the words "client compliance and cervical smears" yielded 6007 results. A subsequent search through EbscoHost, Academic Search Premier, CINAHL, Health Source, Nursing/Academic Edition, MEDLINE, and PsycInfo databases, using the words, "noncompliance, nonadherence and Pap smear" yielded zero results. Using the same search engines, the words "Pap smear compliance and adherence" yielded 21 results. A search of MEDLINE, CINAHL, HAPI and OVID using the words "compliance Pap smear" yielded 14,730 results. Using these same search engines, the words "cervical cancer" yielded 17,662 results, the words "cervical cancer screening" yielded 2,354 results, and the words, "cervical cancer screening compliance" yielded seven results. Articles were first considered based on their title. The reference list of articles believed to be relevant to the literature review were examined, and some articles from the reference lists are utilized in this literature review. Furthermore, an Internet search was performed. Internet sites searched included The Centers of Medicare and Medicaid Services, the Center for Disease Control, the United States Department of Health and Human Services, the Mayo Clinic website, the National Cancer Institute website, and the Cancer.org website. This chapter will present the literature obtained. The chapter will be organized according to the following categories: cervical cancer, its

prevalence and costs; the Pap smear screening test and its importance; the disparity in cervical cancer diagnosis related to African American women and; barriers to Pap smear screenings.

Cervical Cancer

Thirteen thousand new cases of cervical cancer are diagnosed in the United States each year (Hoyo et al. 2005). Furthermore, 12,000 women in the United States alone are diagnosed with invasive cervical cancer each year (Ashing-Giwa et al., 2004). In the year 2002, there were over 5000 deaths in the United States related to cervical cancer (Sherris et al., 2004). Between the years 2000 and 2003, Pap smear screening rates fell slightly among women 18 years of age and older (National Cancer Institute, 2005). The second most prevalent cancer in women worldwide is cervical cancer (National Cancer Institute, 2003), and cervical cancer is the tenth leading cause of death in women in America (Selvin & Brett, 2003). If every woman adhered to recommended Pap smear screening tests, as much as 90% of cervical cancer incidents could be avoided (Van Til et al., 2003). Avoiding cervical cancer will prevent the detrimental effects associated with cervical cancer and its treatment.

Cervical Cancer Costs

In addition to the detrimental effects on individual lives, cervical cancer has a detrimental effect on society as a whole. Economically, cervical cancer places a huge monetary burden on the nation's health care system. Hospital inclient records from the years 1994-1997 reveal that the average cost for an

individual woman's inclient stay, due to cervical cancer, is approximately $9,575 (National Center for Chronic Disease Prevention and Health Promotion, 2003).

In 2004, $1.2 billion was spent on cervical cancer, and the average amount spent on Medicare clients diagnosed with cervical cancer in just one year following the diagnosis was $20,100 (National Cancer Institute, 2005). In comparison, the cost of a Pap smear in a government clinic is approximately $9 and in a private clinic, the cost is approximately $35 (Lee, Seow, Ling, & Peng, 2002).

The differences in monetary cost for treatment of cervical dysplasia (early stage) versus stage one and stage four cervical cancer are astronomical. The cost of diagnosis, treatment and follow-up care for cervical dysplasia is approximately $1,728 versus $17,645 for stage one cervical cancer, and $40,280 for stage four cervical cancer (Brooks et al., 2000).

In addition to monetary costs, there are other, less tangible costs associated with cervical cancer. Female suffering, fear and stress of the afflicted individual, and fear and stress of the afflicted individual's family are a detrimental cost of cervical cancer. Furthermore, there are collateral costs associated with cervical cancer. Examples are: costs associated with school and job absences and; loss of work and decreased or loss of benefits from work (Sherris et al., 2004). Unfortunately, the most significant costs of cervical cancer are the morbidity and mortality rates associated with cervical cancer.

According to Mullins (1999), the astronomical cost of cervical cancer is largely related to its being diagnosed in the later, more advanced stages.

According to health economists, the cervical cancer screening, or Pap smear screening is very cost-effective (United States Department of Health and Human Services, 2005a). Therefore, in order to maintain some control over the potentially detrimental diagnosis of cervical cancer, it is vital that women remain compliant with receiving recommended Pap smear screenings (Kaplan et al., 2000). It is only through early detection that early treatment can be implemented (Guidozzi, 1996). Therefore, it is essential to identify factors that inhibit compliance with recommended Pap smear screening. Through identification of significant factors, appropriate interventions can be implemented.

The Pap Smear Screening Test

Between the years 1955 and 1992, cervical cancer deaths in the United States dropped by 74%. The use of the Pap smear or cervical smear test has been held largely responsible for this significant decline (National Cancer Institute, 2003). The Pap smear screening test can prevent many metastatic or invasive cancerous conditions by early detection, which allows for early successful treatment. As many women usually remain symptom free until cancerous cells invade other nearby healthy tissue, the Pap smear screening test is extremely important in the early detection of this deadly disease when it is in a highly curable stage (Boonpongmanee, 2006; National Institutes of Health, 2002).

The Pap smear screening test is the most common, acceptable screening method for the detection of cervical cancer (Castellano, Wenger & Graves, 2001) and has not only been credited with reducing mortality, but also morbidity

associated with cervical cancer (Hewitt, Devesa, & Breen, 2004; Marks & Lee, 2000; Montz, Farber, Bristow, & Cornelison, 2001).

The Pap smear screening test is important in preventing death attributed to cervical cancer because the prognosis of a client with cervical cancer largely depends upon the extent of the cancer at the time it is diagnosed. Unfortunately, about one-third of women eligible for the Pap smear screening test are not screened as recommended (National Cancer Institute, 2003).

The Pap smear screening test works by finding changes in the tissue of the cervix before the actual development of cervical cancer, or by identifying cervical cancer in the early stages. Through early detection and treatment of cervical cancer, the survival rate substantially increases, making cervical cancer one of the most curable types of cancer. However, this cancer must be identified in the precancerous or an early stage in order to maintain this promising rate of cure (Lawson, Henson, Bobo, & Kaeser, 2000).

Disparity and African American Women

Unfortunately, this promising rate of cure seems to be impeded in the African American population, and exemplifies the disparity between African American women and their Caucasian counterparts in regards to cervical cancer. The literature supports a higher morbidity and mortality rate in relation to cervical cancer in African American women (Ashing-Giwa et al., 2004; Brooks et al., 2000; Ghafoor et al., 2002; Howell et al., 1999; Samelson, Speers, Ferguson & Bennett, 1994; Shavers & Brown, 2002; Walker et al., 1995). This disparity is believed to be related to insufficient use of cervical cancer screening, or the Pap

smear screening, in African American women (Schwartz, Crossley-May,
Vigneau, & Banerjee, 2003; Shavers and Brown (2002). Additionally, middle-
aged African American women have the greatest rate of cervical cancer
morbidity and mortality and the lowest rate of Pap smear screening adherence
(Hoyo et al., 2005).

Samelson, Speers, Ferguson, and Bennett (1994) point out that the
disparity in the mortality rate for African Americans have, for decades, been
linked to the disparity in cervical cancer screening rates. Similarly, Morgan et al.
(1996) state that the survival rate from cervical cancer is worse for African
American women than Caucasian women. This study attributes this disparity to
the stage at time of diagnosis. Again, the Pap smear is the method of choice for
the early detection of cervical cancer (Norman et al., 1991).

While the literature emphasizes the importance of the early detection of
cervical cancer, Jennings-Dozier (1999) and Norman et al. (1991) found that
there are many women who have never received a Pap smear screening. Many
of these women are African American, leading to this significant disparity.

As far back as 1973, the National Health Interview survey found that
African American women are at risk for having never received a Pap smear
screening. This survey also identified that this disparity increases with increasing
age. Data also support that Caucasian women are much more likely to have had
a Pap smear screening in the last three years, than African American women
(Norman et al., 1991). Upon review of this disparity, it is important to understand
the barriers to Pap smear screening, as reported by African American women. A

review of the literature identifies several factors as related to Pap smear screening compliance.

Barriers to Pap Smear Screening

Health Care Beliefs

Carpenter (2005) identifies health beliefs as significant in predicting compliance or adherence to recommended health actions. Several studies (Behbakht, Lynch, Teal, Degeest & Massad, 2004; Harlan et al., 1991; Fernandez, Tortolero-Luna & Gold, 1998; Kahn, Goodman, Huang, Slap & Emans, 2003; Kahn et al., 1999; Lee, Seow, Ling & Peng, 2002; Maxwell, Bancej, Snider & Vik, 2001) identify the belief that Pap smear screenings are unnecessary, as playing a vital role in noncompliance with Pap smear screening recommendations.

Harlan et al. (1991) conducted a study to determine barriers to Pap smear screening compliance. The sample included 12,868 women age 18 and over. Data were obtained from the 1987 National Center Interview Survey. Respondents reported procrastination, or the belief that a Pap smear is not necessary, as the most frequent reason or barrier for not obtaining a recommended Pap smear screening. Other identified barriers in the study were a history of having had a hysterectomy, cost (including lack of insurance), no regular physician, not recommended by health care provider or told it is unnecessary by the health care provider, embarrassment (including fear) and unknown or other reason.

Harlan et al. (1991) also found several sociodemographic factors associated with noncompliance with recommended Pap smear screenings. They are as follows: low socioeconomic status, less than a high school education, post-menopausal, belief that little could be done to reduce chances of getting cancer, cost, and poor attitude of health care provider. Harlan et al. (1991) stressed the importance of the development of educational programs in targeting unscreened or under screened women that believe the screening is unnecessary or underestimates the importance of the screening.

Lee et al. (2002) also conducted a study in which the belief that the Pap smear screening is unnecessary was identified as the primary reason for noncompliance with recommended Pap smear screening. This study specifically addresses adherence to cervical cancer screening and factors to promote screening. The participants were Asian women. The method employed was a cross-sectional population-based survey. Participants were randomly selected and interviewed in their homes. Interviewers were trained and disqualifications were based on research protocols. Seven hundred twenty-six women responded to this survey. Lee et al. (2002) also studied 116 women in the sample who had obtained a Pap smear in the past but were irregular with obtaining recommended Pap smear screenings (at least once every three years). The chief barriers identified by this subgroup were low accessibility and low perceived susceptibility.

Interestingly, the two most prevalent factors related to noncompliance by the total sample were identified in the article as a low perceived susceptibility and

a lack of perception regarding the importance of the Pap smear screening (Lee et al., 2002). The second barrier is consistent with the Harlan et al. (1991) finding.

Lee et al. (2002) also identified sociodemographic factors associated with noncompliance with Pap smear screening. Those factors were being older, less educated, socially disadvantaged, and attending government polyclinics. This study implies that health related interventions can increase compliance with Pap smear screening. Van Til, Macquarrie, and Herbert (2003) identified the perceived lack of importance of the Pap smear screening and procrastination as barriers to Pap smear screening. These studies support the assumption that an identifiable and repairable barrier to compliance exists.

Maxwell et al.'s (2001) study is significant in that a large sample of 33,817 women age 18 and older were studied. The purpose of this study was to examine barriers to Pap smear screening. Fifty-three percent of the sample reported the belief that the Pap smear screening test is unnecessary. This study focused on certain sociodemographic, lifestyle, health and system barriers. The 1996-1997 National Population Health Survey was used as a source of data. This survey collects cross-sectional and longitudinal information on the health of Canadians. Data were obtained through telephone interviews from the second cycle of the household component of the survey. Identified factors included sociodemographics, such as low educational level, being single, being unhappy, being poor, cultural factors, and poor social support. This study further confirms the under use of the Pap smear screening in certain subgroups of Canadian

women and emphasizes the importance of interventions based on the needs of these subgroups.

Fernandez-Esquer, Espinoza, Ramirez, and McAlister (2003) conducted a study to identify psychosocial and demographic factors associated with Pap smear screening in Mexican-American women of low-income. The baseline survey questionnaire for a community intervention study was used to obtain data for this study. A random sampling procedure was used to select participants. The study's strength is in its sample size of 1804 participants. The findings revealed the belief that the Pap smear screening is unnecessary as the strongest predictor of not obtaining a recommended repeat Pap smear screening. This study is important in that it investigated recommended Pap smear screenings and not just initial Pap smear screening as many previous studies. Multiple regression was utilized and indicated such demographic characteristics such as level of acculturation, health insurance, marital status and age are associated with Pap smear screening compliance. The study identified health care beliefs as the strongest predictor of repeated screening. The findings indicated that demographic and psychosocial factors influence Pap smear screening compliance. Most importantly, the findings supported culture and cultural beliefs as important in planning interventions to increase Pap smear screening compliance.

Kahn, Goodman, Huang, Slap, and Emans (2003) conducted a study to explore the intention to return for Pap smear screenings. The importance of this study is that it studied sexually active adolescent girls who are at high risk for

cervical cancer. The method employed was a cross-sectional, self-administered survey that assessed beliefs, knowledge, perceived risk, perceived control regarding follow-up, Pap smear cues, risk behaviors, impulsivity, and past compliance with Pap smear screening follow-up. Participants' ages ranged from 12 to 24 years. Fifty percent of participants were African American and 22% were Hispanic. Positive beliefs about follow-up were positively correlated with intention to return. The overall conclusion identified personal beliefs, perception of others' beliefs and cues to obtaining a Pap smear screening as associated with the intention to return for follow-up Pap smear screening. The implications of this study are that the findings are relevant in guiding the development of effective interventions to increase Pap smear screening compliance.

Behbakht, Lynch, Teal, Degeest, and Massad's (2004) study explored the association between Pap smear screening noncompliance with the belief that cancer is bad luck. Behbakht et al. (2004) attempted to identify Pap smear screening behaviors and attitudes, and beliefs concerning cancer and cancer treatment in women with cervical cancer. One-hundred forty-six women diagnosed with cervical cancer responded to a pre-tested questionnaire. The survey contained questions adapted from the National Health Interview Survey that was expanded on by an advisory committee. Subjects were divided into two groups, those who never received a Pap smear, and those who received a Pap smear prior to their diagnosis of cancer. The majority of participants were African American.

Kahn, et al. (1999) found that the belief that the participant is not susceptible to cervical cancer is a deterrent to Pap smear screening compliance. Kahn et al (1999) identified pain as the primary reason for noncompliance with Pap smear screening. The authors studied adolescents and identified barriers to their compliance habits. The design was qualitative and the setting was in two clinics in a children's hospital. Fifteen participants, diagnosed with a history of sexually transmitted infection, were individually interviewed. The interview data were developed from information obtained in three focus groups of 12 adolescent girls. Identified barriers included pain, embarrassment, fear of finding a problem, fear of the unknown, lack of perception or belief of vulnerability, characteristics of the health care provider, not seeking out trouble, lack of knowledge, fear of parents finding out, and prolonged waiting time in the clinic. The authors concluded that adolescent girls have poor knowledge regarding Pap smear screening. The investigators recommended that health care providers identify ways in which to overcome barriers.

However, Castellano, Wenger and Graves (2001), contradicts the perception of belief of lack of necessity as a major cause of noncompliance with Pap smear screening. Castellano et al. (2001) found that study respondents most frequently identified transportation problems and financial reasons as the barrier to Pap smear screening compliance. Although the article does not address this discrepancy in its findings, it is possible that the coronary problems of the respondents, past medical history and age may be responsible for the discrepancy. A small sample of 116 respondents participated in this study. The

purpose of the study was to specifically study postmenopausal females with coronary heart disease. The women in this study were volunteers in the Heart and Estrogen/Progesterone Replacement study. Study data were obtained from study records, and additional information was obtained from a telephone questionnaire. The study actually explored compliance with breast examination, mammography, pelvic examination and Pap smear screening. Additionally, this study identified insurance problems and the physician's role as factors related to noncompliance with recommended Pap smear testing. Castellano et al. (2001) also identified the personal experience of fear as a barrier to Pap smear screening compliance. Therefore, Castellano et al. (2001) contradicted the high rating of fear as well as the perception of the lack of necessity for the Pap smear screening as a major cause of noncompliance with Pap smear screening. Castellano et al. (2001) recommended that all health care providers, regardless of specialty or lack of specialty, inform their female clients regarding preventative cancer screening for female related cancers.

Knowledge

Ninety-two percent of women who die from cervical cancer have never had a prior Pap smear screening exam (Neilson & Jones, 1998). In the United Kingdom, two-thirds of women are unaware that the Pap smear is designed to prevent cancer, and those who know about the Pap smear believe it is designed to diagnose cancer, rather than detect cancer in a precancerous stage (Camm, 2005). These statistics make an assessment of knowledge of cervical cancer and cervical cancer screening important in fighting this deadly disease.

Deschamps et al. (1992) found that a lack of adequate knowledge was identified as a reported deterrent to receiving recommended Pap smear screening. Thirty-six women, ages 13 to 59, were interviewed by specially trained individuals for this study. Interviews were audio taped, transcribed and analyzed using the "Ethnograph" software. Lack of knowledge about the Pap smear screening test and its importance, feelings of embarrassment and shamefulness were all identified as barriers to Pap smear screening compliance. Deschamps et al. (1992) further explored why clients do not ask questions about Pap smear screening, and why clients that actually get the test, choose to be screened. Health care providers were interviewed to ascertain their belief in the study findings. Interviewed physicians concurred with the study findings. The clients also identified the lack of reminders, and high physician turnover rates in the clinic, as factors inhibiting compliance with recommended Pap smear screening. This study implies the great significance of education as in intervention in increasing Pap smear screening compliance.

Thomas, Saleem, and Abraham (2005) also found that poor knowledge plays a role in noncompliance with Pap smear screening. The purpose of this exploratory study was to identify barriers to breast and cervical cancer screening among Black and minority ethnic groups in Brent and Harrow in the United Kingdom. Focus groups were held with African Caribbean, African, Arabic, Greek, Gujarati, and Pakistani groups. The sample consisted of 85 women and 50 men for a total of 135 participants. Focus groups identified poor knowledge, underlying cultural and health beliefs, language, attitudes, and unhelpful attitudes

of health care providers to be significant barriers. Thomas et al. (2005) proposed a need to provide community-based education as an intervention in increasing uptake of cancer screening among Black and minority ethnic groups. The importance of educating general practitioners and other health care providers in cultural customs, beliefs, language needs, communication skills and racial awareness were also identified as potential interventions. Behbakht, Lynch, Teal, Degeest, and Massad (2004), Boonpongmanee (2006), Brooks (1996), Fernandez, Tortolero-Luna, and Gold (1998), and Kahn et al. (1999) also identified lack of knowledge as influencing Pap smear screening behavior.

Sociodemographics & Psychosocial Barriers

Compliance with Pap smear screening is influenced by sociodemographic factors. Therefore, ever changing sociodemographic factors must be identified in an effort to increase Pap smear screening compliance. Failure to identify sociodemographic factors that influence Pap smear screening compliance may severely inhibit the success of any plan to increase Pap smear screening compliance (Norman et al., 1991).

One frequently mentioned sociodemographic factor affecting Pap smear screening compliance is age. Bowman, Sanson-Fischer, Boyle, Pope, and Redman (1995) explored the efficacy of an intervention program designed to increase Pap smear screening compliance. A random community survey helped to identify subjects who had inadequate Pap smear screening. Subjects were placed in either an intervention or control group. A follow-up survey of subsequent Pap smear screening attendance was done six months after the

implementation of interventions, which included an educational pamphlet, letters from the health care provider and letters of invitation to attend a women's health care clinic. Research participants used a national screening database to validate the self-report. The findings identified the strongest predictors of Pap smear screening attendance as age, perceived frequency of need, oral contraceptive use, and receipt of a physician reminder letter. Older women were identified as less compliant with Pap smear screening. The general practitioner letter was found to be the most effective in increasing Pap smear screening compliance. The authors recommended further studies on barriers to Pap smear screening in older women, so that interventions could be tailored for this population.

Simoes et al. (1999) identified age as a major factor in Pap smear screening compliance. One thousand six hundred nine Missouri females responded to the Missouri Enhanced Survey and the 1994 Behavioral Risk Factor Surveillance System Survey. Prevalence odds ratios were generated to assist in the identification of predictors of noncompliance with recommended cervical cancer screening. Data were obtained from two probability samples. One sample, the one with the largest number of participants, was a predominately Caucasian, non-institutionalized sample. The other sample was an institutionalized sample, predominantly African American. Analyses were done on combined samples. The study purports that sociodemographic and health related factors were similar for both samples. The results show that women younger than 50 years of age are more likely to receive a Pap smear screening. Increases in Pap smear screening compliance were identified in the combined

probability sample as the lack of any cost barrier, having at least a high school education, and having health insurance. Simoes et al. (1999) also found that African American women are less likely to have a screening exam than Caucasian women. Simoes et al., (1999) implies that further research should examine the relationship between cervical cancer screening compliance in African American women and the diagnostic Pap smear screening.

Austoker (1994) investigated barriers to Pap smear screening after the introduction of a systematic call and recall system. This study explored the general practitioner's role in increasing compliance with recommended Pap smear screening and provided much information on a national program implemented to increase Pap smear screening, possible ways to intervene to increase compliance, and other issues related to cervical cancer. The study identified barriers to Pap smear screening as age (older), social class (lower), cost seeming to outweigh benefits, high anxiety level, fear of cervical cancer, family difficulties, attitude about test relevance, and considering the Pap smear test to be of low priority. Austoker (1994) implicates the importance of the general practitioners' role in increasing Pap smear screening compliance in at risk populations. Maxwell et al. (2001) also identified sociodemographics as relevant to noncompliance with recommended Pap smear screening.

Jennings-Dozier and Lawrence (2000) explored sociodemographic barriers to recommended Pap smear screening. This study focused on minority women. Statistics show that more minority women die from cervical cancer than their Caucasian counterparts (Intercultural Cancer Council, 2004). A convenience

sample of 204 Black and Hispanic women participated in this study. The study occurred in the Philadelphia, Pennsylvania area. Data analysis was conducted to determine variables that could predict compliance with annual Pap smear screening. The findings supported that sociodemographic factors are associated with compliance. These factors were African American, high school graduates with health insurance. Noncompliance was found to be associated with Hispanic women greater than 50 years of age, born outside the United States mainland. African American women who were adherent to Pap smear screening were slightly younger than African American women who were not adherent to Pap smear screening. Jennings-Dozier and Lawrence (2000) stressed the importance of focusing nursing efforts or interventions on identified predictors of noncompliance with Pap smear screening.

Behbakht et al. (2004) explored sociodemographic barriers to Pap smear screening. The sample consisted of 148 women, newly diagnosed with invasive cervical cancer. A multiple logistic regression model was used for analysis of the data. Of 146 participants, 50% of the respondents were African Americans, and 27% were Hispanic. Dominant factors associated with lack of Pap smear screening compliance were less educated, uninsured, lack of family support, lack of knowledge about the risk for cervical cancer, fatalistic attitude of believing cancer is bad luck, and not wanting to know if she has cancer. The need for culturally sensitive outreach was identified by the authors as a need and indication for future studies.

Other studies that explored sociodemographic factors identified access and availability as predominant in Pap smear screening compliance. Agurto, Bishop, Sanchez, Betancourt, and Robles (2004) conducted a study on benefits and barriers of cervical cancer screening. This study explored barriers and benefits from the perspective of not only women but also men and health care providers, and they compared their findings to other findings in the literature. The study was conducted in Latin America. Data were collected through the use of five individual qualitative studies, using interviews and focus groups. Low-income women, health care providers, and men from five Latin American countries participated. All participants identified accessibility and availability of high-quality services, the lack of comfort and privacy in facilities, costs, and lack of courtesy by providers as main barriers to Pap smear screening compliance. Barriers associated with women's beliefs were identified as anxiety related to anticipation of test results, fear of cancer and negligence. Benefits were identified as peace of mind, and being in control of one's own health. The study indicates the increased possibility of overcoming barriers to Pap smear screening through enhancement of the delivery of health care services.

Personal Experience

The activity that takes place in the physician's office during a Pap smear screening has also been identified in the literature as a barrier to Pap smear screening. This is identified in the literature as the personal experience of the woman (Castellano et al., 2001; Fernandez et al., 1998; Hoyo et al.,2005 ; Neilson & Jones, 1998). Neilson and Jones (1998) identified fear and the dislike

of the Pap smear screening experience as barriers to Pap smear screening compliance. They conducted a study in which a questionnaire was completed that provided qualitative as well as quantitative data. Seventy-two women completed the questionnaire. A preexisting questionnaire was scaled down from 66 to 34 questions for this study. This scaled down questionnaire was piloted with 10 women. The authors pointed out that the data obtained were important because 92% of persons dying from cervical cancer have never been tested for the disease. Neilson & Jones (1998) identified fear and a dislike of the Pap smear screening as the main barrier to Pap smear screening compliance. Other barriers identified included economics (time and money), logistics and blaming others. Additionally, individual health beliefs were identified as a factor that plays a vital role in obtaining recommended Pap smear screenings. This study provides findings that can be used in planning successful interventions that will increase Pap smear screening compliance.

Hoyo et al. (2005) conducted a study in which pain was identified as a major barrier to Pap smear screening compliance. The focus of this study was on middle-aged African American women, the group of women with the highest mortality and incidence of cervical cancer. One-hundred forty-four African American women aged 45 to 65 years old were given a questionnaire developed by interviewing three focus groups. Another identified barrier was costs coupled with perceived pain. The authors also found that when comparing pain to other identified barriers, such as, fatalism, perceived discrimination, knowledge concerning cervical cancer, and access to care, were only weakly associated

with Pap smear screening compliance. In conclusion, the authors note the importance of future studies that identify ways of decreasing pain associated with cervical cancer screening in an effort to increase screening compliance. Van Til et al. (2003) also identified pain as a barrier to cervical cancer screening.

Lack of Usual Provider of Care

Health care providers provide cervical cancer screenings. The literature identifies the lack of a usual provider of care as a contributor to noncompliance with Pap smear screening (Mandelblatt et al., 1999; Owusu et al., 2005; Selvin & Brett, 2003). Selvin & Brett (2003) explored breast and cervical cancer screening in Caucasian, African American and Hispanic women. The authors evaluated compliance across a variety of ethnic groups. A large African American and Hispanic population represented the sample. Forty-one thousand households, with approximately 107,000 individuals per year were surveyed. A logistic regression model was used to analyze the results from the 1998 National Health Interview Survey (NHIS). The analysis was based on data from the cancer screening data portion of the NHIS. Study subjects were aged 40 to 65 years old. The strongest predictor of breast and Pap smear screening compliance was identified as the participant having a usual source of health care. This was especially prevalent among African American women. The authors did not find a relationship between Medicaid coverage and breast or Pap smear screening compliance. The authors conclude that identification of variables that impede compliance to cancer screening can be useful in planning screening campaigns.

Owusu et al. (2005) also identified the lack of usual care as a barrier to Pap smear screening compliance. The authors explored ethnicity, as well as low-income women. Predictors of Pap smear screening were explored through telephone interviews with a sample of 285 African American, 164 Hispanic Americans, 256 Hispanic immigrants, and 465 non-Hispanic White females. Participants were aged 18-60. Analysis involved Binary logistic regression. The author found that Pap smear screening compliance increases with a usual provider of health care, and receiving a checkup for a current pregnancy. On the contrary, Pap smear screening compliance decreases when the participant has competing needs, such as housing, clothing and food. The authors concluded that there is a need for culturally competent care in the effort to increase cervical cancer screening.

Mandelblatt et al. (1998) also identified the lack of a usual health care provider as a barrier to Pap smear screening compliance. This study examined screening behaviors of multiethnic women. The authors specifically addressed age, health and source of care in relation to breast and cervical cancer screening. One thousand four hundred twenty women from New York City participated in a telephone survey. The women were from four Hispanic groups and three Black groups. Predictors of screening use were assessed using logistic regression. When taking into account the age of all participants, access to healthcare, including having a usual source of health care, is the greatest predictor of screening compliance. The authors concluded that further studies are needed to explore the relationship between health status and age.

Physician Interaction

Whether a participant receives care from a usual source of care or not, the literature supports that interaction with the physician also plays a role in Pap smear screening compliance (Castellano et al., 2001; Deschamps et al., 1992; Eaker, Hans-Olov & Sparen, 2001; Van Til et al., 2003). Eaker et al. (2001) did a study to ascertain barriers to compliance with recommended Pap smear screening. Data were collected from 944 women in Uppsala, Sweden. Telephone interviews were conducted to obtain the data. Noncompliance was positively correlated with nonuse of oral birth control, the lack of a usual gynecologist, seeing a physician often or not at all, frequent condom use, living in a semi rural or rural area, and lack of knowledge regarding the recommended screening interval. The authors concluded that having a regular gynecologist and having information regarding the recommended Pap smear screening schedule are important in Pap smear screening compliance. Deschamps et al. (1992) similarly identified physician turnover as a barrier to Pap smear screening compliance.

Physician interaction was also identified as an influence on compliance with Pap smear screening by Van Til et al. (2003). A focus group methodology was used in this study. Sixty women agreed to participate. The study identified two emergent themes: 1) personal experience, and 2) system issues. Personal experience referred to the Pap smear screening experience, initiation and follow-up experience, value of self and the relationship with the doctor. System issues referred to accessibility, the need for the client to request a Pap smear screening, making an appointment, low access to female physicians, environmental factors,

such as aesthetics of the waiting area, and coldness of the exam room, correct

knowledge about the need for Pap smear screening, and failure to value

preventive care, which lead to procrastination. Sixty women participated in this

study. The women were aged 45 to 70, had not had a Pap smear screening in

the last five years, and possessed an intact cervix. Five focus groups were held

in an effort to obtain research data. The moderation of the focus groups was

primarily lead by one author. Using transcripts of audiotapes, data analysis was

conducted by researchers who did not conduct the focus groups. Major barriers

to Pap smear screening compliance were identified as competing demands, poor

communication with physicians resulting in failure to establish understanding and

trust, perception of the Pap smear screening as unimportant, lack of knowledge

regarding the Pap smear screening, feeling that initiating discussion regarding

the Pap smear is a burden, negative experiences with Pap smear screening, and

the perception that a Pap smear screening is of low priority. The authors

concluded that the responsibility for the Pap smear screening should be shared

between the Physician and the client.

Obesity

One problem that must be addressed in relation to Pap smear screening

compliance is the issue of obesity. Approximately, 300,000 deaths in the United

States each year are associated with being obese or overweight. Overweight and

obesity are higher among ethnic minority women than their Caucasian

counterparts (United States Department of Health and Human Services, 2002).

Obesity is a major risk factor for most gynecological cancers, including cancer of the cervix (American Cancer Society, 2004).

Lubitz, Litzelman, Dittus, and Tierney (1995) conducted a study to determine if obesity has a negative effect on obtaining Pap smear screenings. Medical Doctors conducted this study in an effort to clarify a possible barrier to Pap smear screening. The sample consisted of 77 physicians (residents) and 15 faculty members from a large, teaching general medicine practice. The authors conducted a secondary analysis of data that was obtained from a controlled trial of reminders meant to improve the use of preventive health care. Study participants provided care to 1,321 females. A computerized medical record system was utilized to obtain information regarding clients. Two hypotheses were identified in this study. First, physicians hypothesized that obese women were less likely to obtain a Pap smear screening. Second, they hypothesized that obesity would be reported as a reason identified by physicians for not doing Pap smear screenings. The first hypothesis was not supported by the data. However, the second hypothesis was supported by the data obtained. Physicians reported that 0.4% of Pap smear screenings were not being done due to obesity of the client. However, this amounts to only three of 330 obese (300) or morbidly obese (30) clients (Lubitz et al., 1995). A significant relationship was identified between client overweight and delay of Pap smear screening related to menstruation, vaginitis or acute illness. This study implies that overweight or obese women have a decreased Pap smear screening rate due to illness associated with their excess weight.

Fontaine, Moonseong, & Allison (2001) conducted a study in which they explored body weight in relation to cancer screening. The purpose of the study was to estimate the association between delayed cancer screening and body mass index (BMI) in adult women. The sample size was composed of almost 80,000 participants. However, only 15% were non-white. A population-based survey was used. The survey was obtained from the 1998 Behavioral Risk Factor Surveillance Survey. The cross-sectional data supported an association between delay in cancer screening and BMI. The study also showed an association between delayed cancer screening and being underweight. The authors hypothesized that this barrier may be the result of appearance concerns, self-esteem and body image. The authors also stated that this finding is consistent with smaller-scale studies that were previously done. The authors concluded that as a result of the increasing obesity rate in American women, it is imperative that this variable be explored, as female cancers are more prevalent in obese and overweight women.

Wee, McCarthy, Davis, and Phillips (2000) conducted a study that utilized a population-based survey, with a sample size of 11,435 respondents. The study found a correlation with obesity and being overweight in relation to Caucasian women, and did not show a correlation between obesity and being overweight in relation to African American women. The authors emphasized that obese women are at an increased risk for cervical cancer and should be targeted for screening compliance.

Ferrante, Chen, and Jacobs (2006) also found that obese women are less likely to obtain up-to-date Pap smear screenings than nonobese women. The purpose of this study was to determine if obese women are less likely to obtain breast and cervical cancer screening. A retrospective chart review of 1809 women in three urban academic practices in New Jersey was conducted to obtain the needed data. Hierarchical logistic regression models were used. While there were no identified differences in mammography screening between obese and nonobese women, Pap smear compliance was noted to be less in obese women (69% vs. 77%, p = 0.001). Using multivariate analysis, obese women had a 25% decrease in being up-to-date with Pap smear screenings. A weakness of this study is that most participants were Caucasian women and it is unclear as to whether these findings would be duplicated in noncaucasian populations. However, the study does point out that additional studies are needed to identify barriers and appropriate interventions to improve Pap smear screening in obese minority women.

Summary

Cervical cancer is a highly curable disease when detected and treated in the early or pre-cancerous stage. The Pap smear screening test is the means to early detection and readily available in the United States. Regardless of the availability of the Pap smear screening test, many women remain unscreened or under screened.

Lack of adequate use of the Pap smear screening test is especially detrimental in the African American population, due to the high morbidity and

mortality rate in African American women, related to cervical cancer. The literature supports the need to identify factors that inhibit Pap smear screening compliance in African American women. Once barriers are identified, appropriate interventions can be developed to help decrease this alarming disparity.

CHAPTER III

RESEARCH METHOD

Introduction

The primary goal of the research design is to gather data that will assist in answering the research questions or hypothesis (Macnee, 2004). The purpose of this research is to identify factors that inhibit compliance with engaging in Pap smear screening in African American women. This chapter will describe the research design and approach, the setting and sample population, the research instrument, the research procedure, and protection of human subjects.

Research Design and Approach

The purpose of this study was to identify factors that inhibit compliance with Pap smear screening in African American women receiving services in a public, urban health care clinic in southeast Louisiana. This clinic provides care at a land-based site and a mobile site. This study identifies and describes the frequency of identified barriers to Pap smear screening, explores whether or not there is a difference between mobile clinic site participants and land-based site participants on the four subscales of cost, convenience, negative emotions, and misinformation or knowledge. This study further explores whether or not a significant relationship exists between age, income, number of births, number of children living in the home, distance and Pap smear screening compliance. In an effort to answer these questions, a descriptive research design is utilized through the use of a survey.

Descriptive statistics for frequency were calculated to ascertain the frequency of identified barriers to Pap smear screening. An independent t-test was performed to explore significant differences in Pap smear screening barriers between the mobile clinic site and land-based clinic site on the four identified subscales of cost, convenience, negative emotions, and misinformation or knowledge. A Chi square test, independent t-test, and one sample t-test was performed to ascertain differences between age, income, number of births, number of children living in the home, distance and Pap smear screening compliance. When obtaining descriptive statistics for frequency, the percent of participants identifying an item on the survey as a barrier to Pap smear screening was the means used to report the frequency and descriptive data. Any item marked as a 4 or 5 on the likert scale was considered a barrier to the participant.

The purpose of a descriptive survey design is "to describe the incidence, prevalence or amount of particular characteristics present in a population" (Brink & Wood, 1998, p. 289). Descriptive analysis involves collecting data from a particular sample, and includes analyzation of content data which allows summarization of data into specific categories or determining frequency distributions and measures of central tendency (Wood & Ross-Kerr, 2005). This study involved the use of a descriptive analysis for frequency distributions and mode. Frequency distribution involves compiling data to determine how many times a particular event or situation occurs. A measure of Central Tendency involves determination of an average which is sample specific (LoBiondo-Wood

& Haber, 2002). Mode is the most frequent value recorded. Mode is being reported as it provides descriptive data on which survey item was most frequently identified as a barrier.

This study also involved the use of inferential statistics. Inferential statistics assist in determining whether differences are caused by independent variable manipulation or by chance alone. When there is a low probability of a difference being caused by chance alone, this boosts confidence in inferences made from sample populations (McGraw-Hill Companies, 2001). The ultimate goal of inferential statistics is to make inferences, assumptions, estimations and/or predictions about a population based upon a sample of the population (AllPsych and Heffner Media Group, Inc., 2004).

Variables to be examined include those identified in the literature and by a panel of experts as barriers to Pap smear screening, that is, being afraid of what the Pap smear might show, non-availability of a female doctor, not being aware of Pap smear recommendations, being unable to afford Pap smears, a woman being able to tell if she has cervical cancer because she will feel sick, a woman believing she would know if she had cervical cancer, the belief that it is unlikely that the individual will get cervical cancer, the inability to get a Pap smear screening done in the evening, the belief that Pap smears aren't effective in preventing cancer, the inability to arrange babysitting, being unable to get time off from work, the belief that they cost too much, failure of the doctor to recommend a Pap smear screening, being afraid of the discomfort of the exam,

being too busy, being unable to get a Pap smear screening on the weekend, and dreading the embarrassment of the exam. In this study, the variables are further broken down into four subscales. The subscales include cost, convenience, negative emotions, and misinformation or knowledge.

The Health Belief Model was applied to the subscale variables of cost, convenience, negative emotions and misinformation or knowledge. The subscale variables can be identified as modifying factors involving the individual's perceived benefit of obtaining a Pap smear screening. Therefore, these factors were deemed paramount to the likelihood of action. According to the Health Belief Model, the individual must perceive susceptibility and seriousness of the disease to perceive a threat which will lead to the likelihood of behavioral change, such as obtaining a recommended Pap smear.

In this study the participants were broken down into two groups. The first group included participants receiving healthcare services from the land-based clinic, and the second group included participants receiving services from the mobile clinic site. To ascertain whether or not there is any difference between groups on the four subscales mentioned above, an independent t-test was performed.

To explore whether or not a significant relationship exists between age, income, number of births, number of children living in the home, distance and Pap smear screening compliance a Chi Square Analysis was performed. A Chi Square Analysis is used to determine if there is a relationship between

categorical variables and an independent t-test is used to determine whether the means of two individual groups are statistically different. A Chi Square Analysis tests the research hypothesis of relationship. T-tests are inferential statistics tests used to determine whether differences exist between group means (Field, 2005).The null hypothesis assumes no significant difference in the response to the independent variable. The alternative hypothesis assumes a significant difference resulting from the response of the independent variable.

<div align="center">Setting and Sample</div>

This study was conducted in a public, urban, women's healthcare clinic in Southeast Louisiana. A convenience sample was utilized. The clinic from which the participants receive healthcare services provides internal medicine and family practice services to male and female adults who come from mostly low-income homes. All clinic clients are evacuees from Hurricane Katrina, which devastated their homes and their lives. The clinic has regular clinic days on Monday, Wednesday and Friday of each week. On Tuesday and Thursday of each week, the clinic provides outreach services by going into a high population trailer park which houses several hundred Post-Hurricane Katrina evacuees. During the time of the study, the clinic lost its mobile nurse, and there were several weeks in which the participants did not receive mobile clinic services. Therefore, the number of land-based participants is disproportionate to the number of mobile clinic participants. The clinic services 400 male and female clients. Two-hundred forty-six of the clients served are African American female. The sample includes

African American women ages 18 or older with no history of having had a hysterectomy which included removal of the cervix.

The sample size was determined using the Raosoft® Sample Size Calculator found on the company's website. Accepting a 5% margin of error, which is the amount of error the researcher is willing to accept, a confidence level of 95%, which represents the amount of uncertainty the researcher is willing to tolerate, and a 10% response distribution, the targeted sample size is 89. Ninety-three participants were obtained for this study.

<div align="center">Research Instrument</div>

Two tools were used for this study. Both are described.

Demographics Questionnaire

The demographics questionnaire (Appendix A) was developed by the researcher. The questionnaire asks 10 sociodemographic questions about age, annual income, employment status, distance from the clinic, marital status, number of children given birth to, number of children living in the home , first language, whether or not the participant has a regular physician, and the last time the participant reports receiving a Pap smear. The questionnaire was reviewed for clarity by 30 individuals who all agreed that the questionnaire was clear and understandable.

Pap Smear Attitudinal Barriers Questionnaire

When choosing a research instrument, it is important to consider the instrument's validity and reliability. Validity refers to the instrument's ability to

accurately measure what it is intended to measure. In research, there are three recognized types of instrument validity. Predictive or criterion-related validity refers to criterion being able to adequately predict an outcome or performance. The size of correlation is positively linked to a high validity (LoBiondo-Wood & Haber, 2002; Nunnally, 1978). There are two forms of predictive or criterion-related validity. The first form is concurrent validity which refers to the correlation of a dual and concurrent measurement of a concept. The second form is predictive validity which refers to the dual measurement of a concept at different times (Lobindo-Wood & Haber, 2002). Content validity refers to the ability to measure the domain of content intended to be measured. Items should be representative of the inquiry subject and should adequately cover the area of interest (LoBiondo-Wood and Haber, 2002; Nunnally, 1978). The researcher identifies the concept and compiles components representative of the concept. After formulating the components of the concept, the items are reviewed by a panel of judges deemed to be experts in the area of interest (LoBiondo-Wood & Haber, 2002). Content validity entails the concept of face validity which refers to verifying the instrument's ability to measure the concept of interest. This is a rudimentary process in which the reviewer judges the instrument's readability, clarity, and ability to measure the concept. Construct validity refers to the abstractness rather than concreteness of a variable (Nunnally, 1978) or the ability to measure a trait or theoretical construct (LoBiondo-Wood & Haber, 2002).

A valid instrument should be a reliable instrument. A reliable instrument is stable homogenous and equivalent. An instrument is reliable if it consistently provides the same results. A stable instrument consistently yields the same results. A homogenous instrument contains items that all measure the same concept, and an equivalent instrument will produce consistent results with parallel instruments (LoBiondo-Wood & Haber, 2002).

A valid and reliable instrument was used in this research study. The Pap Smear Attitudinal Barriers Questionnaire (PSABQ) (Branoff et al., 1997) was used to gather the research data. The PSABQ was reviewed by a panel of experts who agreed that the instrument is clear, understandable, and measures the proposed variables (face validity). A subsequent literature review further supports that the items on the questionnaire contain identified barriers to Pap smear screening compliance. Cronbach's Alpha was used to determine the reliability of the research instrument. Cronbach's Alpha is commonly used to test internal consistency of research tools measuring attitudes on a Likert scale. This test compares each item in the scale simultaneously. The PSABQ has a Cronbach's Alpha of .954. In this study, the Cronbach's Alpha was .829. A Cronbach's Alpha greater than .70 sufficiently supports internal consistency (Lobiondo-Wood & Haber, 2002).

The PSABQ is comprised of 17 questions. This is a self-administered questionnaire that can be answered in five minutes. Permission to use this questionnaire was granted from its developers, R. Branoff, K. Santi, J. K.

Campbell, R. Roetzheim and M. Oler through Dr. Perloff at the HAPI database (See Appendix D). The PSABQ asks closed-ended responses in regards to the importance of 17 factors that are perceived as barriers to Pap smear screening. Items on the questionnaire are derived from barriers identified in the literature as Pap smear screening barriers. Items on the questionnaire include, being afraid of what the Pap smear might show, nonavailability of a female doctor, not being aware of Pap smear recommendations, being unable to afford Pap smears, a woman being able to tell if she has cervical cancer because she will feel sick, a woman believing she would know if she had cervical cancer, the belief that it is unlikely that the individual will get cervical cancer, the inability to get a Pap smear screening done in the evening, the belief that Pap smears aren't effective in preventing cancer, the inability to arrange babysitting, the belief that they cost too much, failure of the doctor to recommend a Pap smear screening, being afraid of the discomfort of the exam, being too busy, being unable to get a Pap smear screening on the weekend, and dreading the embarrassment of the exam.

The PSABQ has a five-point Likert scale, with (5) representing strongly agreed, (4) representing agreed, (3) representing neutral, (2) representing disagreed, and (1) representing strongly disagreed. The questionnaire can be broken down into four subscales which are identified as cost, convenience, negative emotions, and knowledge or misinformation. Questions regarding barriers were ranked by categorizing identified barriers into these four subscales. The subscales were measured according to the percent of women scoring one or

more items in the subscale group with either a 4 or 5 on the Likert Scale. The 17

Individually identified barriers were determined by the percentage of women

identifying an item as a barrier to Pap smear screening, which was also

measured by a score of 4 or 5 on the Likert Scale.

Procedure

Approval to begin and engage in research was received from the

Institutional Review Board for the use of human subjects in research, at the

University of Southern Mississippi. Permission to use the public health clinic in

Southeast Louisiana, and to access client health records if necessary, was

obtained from Mary Crooks, Administrator, at Excelth, Inc. The researcher set up

a table in the private waiting area, at the land-based clinic for three days a week

for six weeks, and a table was set up in the private waiting room at the remote

site twice a week for one week. The mobile site clinic then lost its nurse and

healthcare providers did not return to the site until after the completion of the

study. When potential subjects entered the waiting room, they were introduced to

the study by explaining the study and subject rights, including confidentiality

rights. Only one potential participant chose to decline participation. After the

participant agreed to participate, she was asked to sign the informed consent.

The participant was then given the demographic questionnaire (Appendix A), the

research instrument (Appendix B), and a plain brown envelope. The participant

was asked to complete the demographic questionnaire (Appendix A), and the

research instrument (Appendix B), and to place them in a box located at the

receptionist's table. Once the questionnaires were completed, the participant placed the completed forms in the plain brown envelope and placed the envelope in the assigned box which was out of the public's reach and eye at all times. Those placing the envelope in the assigned box were given a free water bottle. At the end of each clinic day, the researcher removed the forms from the box. Completed forms are kept in a locked file cabinet at the researcher's office and will remain there for a period of five years. Data were coded for confidentiality by assigning each questionnaire a number. The number on the envelope matches the number on the research instrument. No names were placed on any of the questionnaires used in the research study. Raw data will be available by request from the researcher.

<div align="center">Data Analysis</div>

Descriptive statistics were utilized to obtain frequency distributions and percentages. Factors contributing to noncompliance were ranked in two ways. First, any item receiving a score of 4 or 5 on the Likert Scale was ranked into percentages for frequency distribution. Secondly, the mode was computed for each item and related factors contributing to noncompliance were categorized into four subscales: cost, convenience, negative emotions, and knowledge or misinformation. Items 4 and 12 were grouped under cost, items 8, 10, 11, 15, and 16 were grouped under convenience, items 1, 2, 14, and 17 were grouped under negative emotions, and items 3, 5, 6, 7, 9, and 13 were grouped under misinformation or knowledge. These groups were ranked for percentage

frequencies based on the percent of females scoring at least one item as a four or five on the Likert Scale. Items were further categorized into two groups using the Health Belief Model as a basis for categorization. Items 1, 2, 3, 4, 5, 6, 7, 9, 12, 13, 14, and 17 were grouped under modifying factors and 8, 10, 11, 15, and 16 were grouped under likelihood of action. These groups were analyzed for percentage frequencies based on the percent of females scoring at least one item as a four or five on the Likert Scale.

Inferential statistics (Chi Square analyses and independent t-tests) were used to test the null hypothesis that age, distance, annual income, number of children given birth to, and number of children living in the home does not have a significant influence on Pap smear screening compliance. Independent t-tests were performed to test the null hypothesis that the land-based treated participants and the mobile clinic site treated participants do not significantly differ in their identification of the subscales of cost, convenience, negative emotions, or knowledge or misinformation as barriers to Pap smear screening compliance.

Human Subjects Protection

Human rights were protected according to the guidelines provided by the University of Southern Mississippi. The researcher informed all potential participants of their rights, including the right to refuse, or withdraw at any time, their right to refuse to answer any question on the questionnaires, their right to

confidentiality, and participants will be informed of the purpose of the study (See Appendix C).

Participants were informed that they would be filling out two questionnaires (Appendix A and Appendix B). Instruments were be coded with a number and no one could identify of the respondent once the instrument had been submitted. Data forms will be kept for a period of five years. The research site is not identified in the study results.

Summary

This chapter has provided information regarding the methodology for this study. Chapter Four will provide the demographic and study findings. The sample characteristics, quantitative statistical analysis and statistical findings will also be discussed.

CHAPTER IV

RESULTS

Introduction

This study was conducted to identify factors that inhibit Pap smear screening compliance in African American women. Ninety-three subjects completed two questionnaires which were used to collect data to answer the three research questions. Data were collected using the 10 item demographics questionnaire developed by the researcher, and the PSABQ. Demographics questionnaire items were chosen based on demographics identified in the literature as possibly having an impact on Pap smear screening compliance. Cronbach's Alpha was used to determine the reliability of the PSABQ which has a Cronbach's Alpha of .954. In this study the Cronbach's Alpha was .829. A Cronbach's Alpha greater than .70 sufficiently supports internal consistency (Lobiondo-Wood & Haber, 2002). This chapter describes the sample and presents the research findings.

Description of Sample

Ninety-three women ages 18 or older with no history of having had a hysterectomy which included removal of the cervix and a mean age of 44.01 years (median = 44 years, mode = 57 years, and range = 18 – 72 years) were included in the data analysis. All participants identified English as their first language. Seventy-one participants attended the land-based clinic in which the travel distance was one to thirty miles. Of all the demographic data questions

asked, distance from the clinic is identified as missing data most often (missing data = 19).

Twenty-two of the participants received healthcare services from the mobile clinic site; therefore, their travel distance was zero. Eighty-seven percent of the participants earned less than $12,000 per year, and only two percent earned $20,001- $39,000 per year. All participants earned less than $40,000 per year. Approximately half of the participants (49.5%) identified themselves as unemployed.

Over 37% of the participants were never married, and 25.8% were divorced. The number of children given birth to ranged from zero to ten. The largest percent of participants gave birth to two children (26.9%), and most participants (35.5%) had two children living in the home. Almost 41% of participants had a regular doctor and 57% did not have a regular doctor.

Findings

Data were analyzed in an effort to answer the three research questions. An alpha level of .05 was used for all statistical tests. This section will present the findings according to each research question. Research Question One: What factors inhibit compliance with recommended Pap smear screening in African American women age 18 or older?

Descriptive statistics for frequency distribution were utilized to answer this first research question. Table 1 reflects the findings.

Table I. Frequency Distribution Table depicting percent of times item was identified as a barrier to Pap smear screening compliance. N = 93

Identified Barriers	Frequency	Percent
1. I've been afraid of what it might show.	18	19.4
2. A female doctor was not available.	15	16.1
3. I wasn't aware that it is recommended that all women have one every year or two.	30	32.3
4. I couldn't afford it.	39	41.9
5. A woman can tell if she has cervical cancer because she will feel sick.	4	4.3
6. . I'd know if I had cervical cancer.	9	9.7
7. It is very unlikely that I will get cervical cancer.	7	7.5
8. I couldn't get one done in the evening.	9	9.7
9. Pap smears aren't effective in preventing cancer.	9	9.7
10. I couldn't get time off from work	16	17.2
11. I couldn't arrange babysitting.	6	6.5
12. They cost too much.	49	53.3
13. My doctor did not recommend it.	13	14.0
14. I was afraid of the discomfort of the exam.	25	26.9
15. I've just been too busy.	10	10.8
16. I couldn't get one done on the weekends.	7	7.5
17. I dread the embarrassment of the exam.	17	18.3

Table 1 reflects that the most frequently identified barriers were cost (53%), being unaware that it is recommended that all women have one every year or two (32%) and fear of the discomfort of the exam (27%). The lowest ranked barriers were a woman can tell if she has cervical cancer because she will feel sick (4%), I couldn't arrange babysitting (6.5%) and I couldn't get one done on the weekends (7.5%).

In support of this finding, the mode of each item was also identified in the data analysis in an effort to determine which items have a mode of four or five which signifies recognition of the item as a barrier to Pap smear screening. The only item with a mode of four or five was the item regarding "cost too much". This item has a mode of four.

Data were also analyzed to determine the frequency in which modifying factors and likelihood of action factors were identified as barriers to Pap smear screening by the sample. One-hundred percent of the participants identified at least one modifying factor and at least one likelihood of action factor as a barrier to Pap smear screening compliance.

Research Question Two: Is there a difference between participants who attended the mobile clinic and the land-based clinic on the four identified subscales of cost, convenience, negative emotions, and misinformation or knowledge?

In an effort to explore differences in Pap smear screening barriers between the mobile clinic site and the land-based clinic site, independent t-tests were performed. T-tests for independent measures were used to analyze the land-based clinic participants against the mobile clinic participants. The goal was to determine if there is a statistically significant difference between the two independent groups on the four subscales of cost, knowledge, convenience and negative emotions in identification of barriers to Pap smear screening. Table 2 summarizes the findings.

Table 2. Subscales Table, depicting difference between land-based and mobile clinic on subscales: cost, convenience, negative emotions, misinformation or knowledge. N = 93. Alpha=.05

	M	*SD*	*t*	*df*	*p*
LAND-BASED Cost	6.07	2.31	2	33	.02
MOBILE Cost	4.68	2.51			
LAND-BASED Knowledge/Misinformation	24.25	3.72	4	91	.000
MOBILE Knowledge/Misinformation	20.32	5.68			
LAND-BASED Convenience	16.08	2.68	1	33	.28
MOBILE Convenience	15.36	2.92			
LAND-BASED Negative emotions	14.53	3.11	.1	41	.934
MOBILE Negative emotions	14.59	2.58			

On average, land-based clinic participants identified cost (*M* = 6.07, *SD* = 2.31), knowledge (*M* = 24.25, *SD* = 3.72) and convenience (*M* = 16.08, *SD* = 2.68) as barriers to Pap smear screening, more often than mobile clinic participants (cost *M* = 4.68, SD = 2.51; knowledge *M* = 20.32, *SD* 5.68; convenience *M* = 15.36, *SD* = 2.92). The difference between the cost subscale *t*(2)= 33, *p=.02 and* the knowledge subscale *t*(4) = 91, *p=*.000 were significant. The difference between the convenience subscale *t*(1) = 33, *p=.28*, and the negative emotions subscale t(.1) = 41, p=.934 were not significant. On average, the mobile clinic site participants identified negative emotions (*M* = 14.59, *SD* = 2.58) more often as barriers to Pap smear screening than the land-based clinic

participants (M = 14.53, SD = 3.11), however as noted above, the difference was not significant.

Research Question Three: Is there a significant relationship between Pap smear screening compliance and age, income, number of births, number of children living with the participant, and/or distance?

In an effort to explore the relationship between Pap smear screening compliance and age, income, number of births, number of children and distance a Chi Square analysis was performed. Table 3 depicts the results of the Chi Square analysis.

Table 3. Demographics Contingency Table showing relationship between demographic variables and Pap smear screening compliance. N=93. Alpha=.05

	χ^2	df	p
Birth	1.94	8	.08
Live	3.72	3	.29
Income	4.89	2	.087
Age	65.66	39	.01
Distance	25.31	15	.05

Birth=number children given birth to; Live=number children living in home; Income is annual; Distance in miles.

Chi-square analyses did not show a significant association between number of children given birth to χ^2 (1.94), df = 8, p=.08, the number of children living with the participant χ^2 (3.72), df=3, p=.29, or income χ^2(4.89), df=2, p=.087. The Chi Square Analyses did show significant associations between age χ^2 (65.66), df=39, p=.01 and distance from the clinic site χ^2 (25.31), df=15, p=.05,

and Pap smear screening compliance χ^2 (16.54), *df*=3, *p*=.001. Table 3 depicts

this data.

Table 4. Demographics and Clinical Site Contingency table showing relationship between demographic variables and Pap smear screening compliance, separated by clinic site. N=93. Alpha=.05

	χ^2	df	p
LAND-BASED Age	55.61	36	.20
MOBILE Age	39.00	39	.000
LAND-BASED Birth	14.00	7	.05
MOBILE Birth	15.14	5	.01
LAND-BASED Live	1.19	3	.76
MOBILE Live	14.50	3	.002

Birth=number children given birth to; Live=number children living in home

A Chi Square Analysis was performed to predict the possible association

between Pap smear screening compliance (which was measured using the self-

reported known last date of Pap smear on the demographics questionnaire,

compliance is defined by those having received a screening within one year) and

age, the number of children given birth to by the participant, and the number of

children living with the participant comparing land based participant responses to

mobile clinic participant responses. Distance and income were not analyzed as

they were constants for mobile site participants.

The Chi Square Analysis found no statistically significant relationship

between age and Pap smear screening compliance for participants receiving

care at the land based clinic χ^2 (55.61), *df*=36, *p*=.20; however, a statistically

significant relationship between age and Pap smear screening compliance was

identified in participants receiving care from the mobile clinic site $\chi^2(39)$, $df=39$), $p<.001$. Chi square analysis found statistically significant relationships between the number of children given birth to and Pap smear screening compliance in both the land based participants $\chi^2(14)$, $df=7$, $p=.05$ and mobile clinic site participants $\chi^2(15.14)$, $df=5$, $p=.01$. Chi square analysis found no statistically significant relationship between Pap smear screening compliance and number of children living in the home for land based participants $\chi^2(1.19)$, $df=3$, $p=.76$; however, a statistically significant relationship was identified between number of children living in the home and Pap smear screening compliance in mobile clinic participants χ^2 (14.50), $df=3$, $p=.002$.

Summary

This chapter discussed the findings and study results of a survey of 93 African American females to answer the three research questions. The findings were: 1) Cost is the most frequently identified barrier to Pap smear screening compliance, followed by lack of or inadequate knowledge, 2) Land-based clinic participants identified cost, knowledge and convenience as barriers to Pap smear screening more often than mobile clinic participants. However, differences were only significant on the cost and knowledge subscales. Mobile clinic participants identified negative emotions more often as barriers to Pap smear screening compliance than land-based clinic participants, although the difference was not significant, and 3) There is no significant association between number of children given birth to, number of children living with the participant or income and Pap smear screening compliance in the sample studied; however, there is a

significant association between age, and distance and Pap smear screening compliance in the sample studied. Furthermore, there was no significant relationship between age and Pap smear screening compliance for participants receiving care at the land-based clinic; however, a relationship between Pap smear screening compliance and age in mobile clinic site participants was found.

The findings in this study can be used to plan appropriate, effective interventions that may assist in decreasing the alarming disparity in morbidity and mortality of African American women suffering from and dying from the devastating, yet highly curable diagnosis of cervical cancer. This study provides data from the prospective of the African American women and allows nurses to meet the needs of African American women through evidence-based practice.

Chapter five will discuss the findings of this study. Additionally, the author will discuss study conclusions, the significance of the study, study limitations and make recommendations for further studies.

CHAPTER V

DISCUSSION OF FINDINGS

Introduction

This study examined 93 African American females from Southeast Louisiana to answer three research questions regarding barriers to Pap smear screening compliance. This chapter will present the conclusions, discuss the findings of the study, significance of study findings, limitations of the study, and make recommendations for further studies.

This study identifies and describes the frequency of identified barriers to Pap smear screening. Past studies have been done by numerous researchers in an effort to identify barriers to Pap smear screening compliance. This study identified cost as a main barrier to Pap smear screening compliance. Several studies by Agurto et al. (2004), Austoker (1994), Behbakht et al. (2004), Bishop et al. (2004), Castellano et al (2001), Harlan et al. (1991), Hoyo et al. (2005), Maxwell et al. (2001), Neilson & Jones (1998), Owusu et al. (2005), and Simoes et al. (1999) also identified cost as a main barrier to Pap smear screening compliance.

This study identified knowledge as the second most common barrier to Pap smear screening compliance. Behbakht et al. (2004), Boonpongmanee (2006), Brooks (1996), Deschamps et al. (1992), Fernandez et al. (1998), Kahn et al. (1999), and Thomas et al. (2005) previously found knowledge to be a major barrier to Pap smear screening compliance.

Demographics were also explored for their possible influence on Pap smear screening compliance. This study found a decrease in Pap smear screening compliance as age increases. Prior studies by Austoker (1994), Bowman et al. (1995), Jennings-Dozer & Lawrence (2000) , and Simoes et al. (1999) also identified age as a barrier to Pap smear screening compliance.

Each year, thousands of American women are diagnosed with early stage or invasive cervical cancer (Hoyo et al., 2005; National Institutes of Health, 2002) which results in more than 5,000 cervical cancer related deaths (Sherris et al., 2004). Studies show that adherence to recommended Pap smear screenings could facilitate treatment of at least half of precancerous incidents prior to the development of cancer (Hewitt, Devesa, & Breen, 2004; National Institutes of Health, 2002), and as much as 90% of cervical cancers could be avoided all together (Van Til, Macquarrie, & Herbert, 2003). The Pap smear provides early detection of cervical cancer and can assist in preventing metastatic or invasive cervical cancer which allows the early detection of cervical cancer resulting in effective treatment while cervical cancer is in a curable stage. Pap smear screenings are effective in decreasing morbidity and mortality related to cervical cancer (Wilson & Orians, 2005; National Institutes of Health, 2002).

Statistics show that African Americans have a much higher incidence of cancer than all other ethnic groups, have a 33% higher chance of dying from cancer than Caucasians, and African Americans have a 50% greater chance of dying from cancer than any other ethnic or racial group. African American women have a substantially higher mortality rate from cervical cancer than other ethnic

or minority groups (Shavers & Brown, 2002). This disparity is believed to be related to cervical cancer being diagnosed in an advanced stage in African American women. Later stage diagnosis may be directly related to under utilization of the Pap smear screening test in African American women (Shavers & Brown, 2002). The purpose of this study was to identify factors that contribute to noncompliance in Pap smear screening in African American women.

This study identified cost as the most identified barrier to Pap smear screening compliance. This finding is supported by the literature as a barrier to Pap smear screening compliance. Harlan et al. (1991) identified cost, including the lack of health care insurance as a barrier. Maxwell et al. (2001) identified being poor as a barrier to Pap smear screening compliance. Castellano et al. (2001) identified financial reasons as a barrier to Pap smear screening compliance. Austoker (1994) identified that cost seemed to outweigh benefits as a barrier to Pap smear screening compliance. Bishop et al.(2004) identified costs as a Pap smear screening compliance barrier. Simoes et al. (1999) identified cost as a screening barrier. Behbakht et al. (2004) identified being uninsured as a prominent barrier. Agurto et al. (2004) identified costs as a main barrier. Neilson & Jones (1998) identified the lack of money as a barrier, and Hoyo, et al. (2005) identified costs coupled with perceived pain as strongly associated with Pap smear screening compliance. Owusu et al. (2005) alluded to costs as a barrier to Pap smear screening compliance when identifying competing needs, such as housing, clothing and food as barriers.

Knowledge was the second most identified barrier to Pap smear screening compliance. This finding is also strongly supported by the literature. Kahn et al. (1999) identified the lack of knowledge or poor knowledge regarding Pap smear screening recommendations as a main barrier to Pap smear screening compliance. Deschamps et al. (1992) also identified the lack of adequate knowledge as a screening barrier. Thomas et al. (2005) found inadequate knowledge to play a major role in noncompliance with Pap smear screening. A lack of knowledge was also identified as a barrier to screening compliance by Fernandez et al. (1998), Boonpongmanee (2006), Behbakht et al. (2004), Brooks (1996), and Kahn et al. (1999).

This study further identified age as a factor in Pap smear screening compliance. As age increased, compliance decreased. This finding is also supported by the literature. Bowman et al. (1995) found age to be one of the strongest predictors of Pap smear screening compliance. Simoes et al., (1999) also identified age as a major contributing factor in screening compliance. Austoker (1994) identified older age as a Pap smear screening compliance barrier. Furthermore, Jennings-Dozier and Lawrence (2000) identified an increase in screening compliance in younger African American women.

These data can be used to support the development of interventions that can be used by health care professionals to decrease barriers and increase Pap smear screening compliance in African American women. The ultimate goal of this study is to assist in decreasing morbidity and mortality related to cervical cancer in African American women.

This study also explored differences between land-based participants and mobile clinic site participants. As land-based and mobile site participants have differing access to care, differing exposure to health care information, differing lifestyles and differing socioeconomic status overall, it is important to investigate differences in screening behavior barriers so that appropriate interventions can be implemented to best meet the needs of all participants.

Using Becker's Health Belief Model as the theoretical basis for this study, variables studied included perceived susceptibility, perceived seriousness and perceived benefit, which include knowledge regarding Pap smear screening, impediments to scheduling and attending scheduled Pap smear screenings, and attitude toward the importance of Pap smear screening, perceived barriers which include cost or economics, access to care, and psychosocial factors. Age, annual income, distance from the care site, the number of children given birth to, and the number of children living in the home were also identified. It is believed that these factors influence client behaviors or cues to action, in regards to receiving recommended Pap smear testing.

This study supports Becker's Health Belief Model. Perceived susceptibility, perceived seriousness, and perceived benefit is measured in this study through cost, convenience, knowledge and negative emotion subscales. All subscales were found to have some impact on Pap smear screening compliance. Age was found to significantly influence Pap smear screening compliance. In relation to Becker's Health Belief Model, individual perceptions and the identified modifying

factors do influence the participant's likelihood of action, that is, likelihood of obtaining a recommended Pap smear screening.

Conclusions

The first research question asked, "What factors inhibit compliance with recommended Pap smear screening in African American women age 18 or older?" Descriptive statistics for frequency distribution identified cost (53.3%) as the most frequent barrier to Pap smear screening compliance in African American women. Fear of what the Pap smear screening might show was identified as a barrier to Pap smear screening by 19.4% of the participants. Over 16% of participants identified the lack of availability of a female doctor as a barrier to Pap smear screening, 32.3% identified being unaware that it is recommended that all women have a routinely scheduled Pap smear screening as a barrier to Pap smear screening, over 41% identified inability to afford the test as a barrier, over 17% identified the belief that Pap smears are ineffective in preventing cancer as a barrier, 14% reported that their doctor did not recommend the Pap smear screening, 26.9% say they fear the discomfort of the exam, over 10% report being too busy, 7.5% identify being unable to get a Pap smear on the weekends as a barrier, and 18.3% dread the embarrassment of the exam.

The second research question asked, "Is there a difference between participants who attended the mobile clinic and the land- based clinic on the four identified subscales of cost, convenience, negative emotions, and misinformation or knowledge?" T-tests for independent measures showed, on average, land-based clinic participants identified, knowledge and convenience as barriers to

Pap smear screening, more often than mobile clinic participants. The analysis identified a significant difference on the cost and the knowledge subscale. The difference on the convenience subscale was not significant. On average, the mobile clinic site participants identified negative emotions more often as barriers to Pap smear screening than the land-based clinic participants, however, the difference was not found to be significant.

The third research question asked, "Is there a significant relationship between Pap smear screening compliance, age, income, number of births, number of children, and/or distance?" Chi-square analysis was performed to answer this question for mobile site and land based participants combined. The results did not show a significant association between income, number of children given birth to or the number of children living with the participant. The Chi Square Analysis did show a significant association between age and distance from the clinic site and Pap smear screening compliance.

Chi Square Analysis was also performed to answer this question for the mobile site and land based participants separately. The results found an association between increased Pap smear screening compliance with the number of children given birth to for participants receiving care from the land-based clinic, and an association with Pap smear screening compliance with age, number of children given birth to and number of children living with the participant in participants receiving care from the mobile clinic site. Overall the analysis showed that mobile clinic site participants were less compliant with Pap smear screening than participants receiving care in the land-based clinic site.

Significance of Study Findings

The findings of this study are significant in planning appropriate, effective interventions in an effort to increase Pap smear screening compliance in African American women, thereby decreasing cervical cancer related morbidity and mortality in African women. This study identified cost as the most frequently cited barrier to Pap smear screening compliance. Efforts must be made to make relatively inexpensive Pap smear screenings available to low income and middle class minorities. While there are many programs that offer free or income-based Pap smear screenings, these findings indicate that African American women are unaware of these affordable services. Efforts must be made to better market affordable screening programs to minority populations. Marketing can be done through posters on clinic sites, public service announcements on television, and educational trainings at high schools and community churches.

The findings of this study support knowledge, negative emotions and convenience as barriers to Pap smear screening in African American clients. While the difference between land based and mobile clinic clients were not significant for negative emotions and convenience, these findings imply that negative emotions and convenience are important in increasing compliance with Pap smear screening in African American women. It is important to note that the clients all suffered from an extremely traumatic event in that they were all displaced from their homes and they all lost their homes and belongings only two years prior to collecting this data. Displacement and homelessness may strongly effect the results of these subcategories. These results aid in identifying the

importance of treating client holistically. Emotional factors and living situation must be considered when dealing with this population.

The identification of knowledge as a barrier to Pap smear screening compliance was disturbing. This speaks to the need to educate all clients regarding screening recommendations. Education during clinic and even hospital visits may positively effect screening compliance rates in African American populations. Public service announcements and education in community health settings can be supported through the findings of this study.

The results of this study provide research based rationale for obtaining demographic data when interviewing clients. Once these data are obtained, they can be used to gauge which clients are at highest risk for Pap smear screening noncompliance. The study findings support decreased compliance with Pap smear screening in mobile clinic site participants when compared with land-based clinic participants. This may be attributed to the lack of Pap smear screening services from the mobile clinic site. As clients receive their care on site, it may adversely effect their motivation to seek unavailable services outside of their on- site clinic.

Limitations of the Study

There are several limitations to this study. One of the biggest limitations to this study is the use of an instrument which does not include several of the factors more recently identified as barriers to Pap smear screening compliance, such as obesity and pain.

As this study has been obtained from a convenience sample, it limits the generalizability of the findings to the population. Additionally, the results were obtained from a self-report survey which calls into question the validity of the responses as they depend solely on the participant's memory.

Furthermore, the data were obtained from participants seeking healthcare. The findings may be different in a population of participants not seeking healthcare. Additionally, the sample was taken from a traumatized sample which may also affect memory, and responses may have been influenced by the traumatic event of Hurricane Katrina. However, the findings of this study are important in initial identification of factors from the African American woman's perspective that impede compliance with Pap smear screening.

Recommendations for Further Studies

Further studies should be done that test this population in a manner that minimizes the aforementioned limitations. A survey that includes other identified barriers to Pap smear screening such as obesity would add substantially to knowledge regarding this adversely effected population. This study should be repeated on a population of African American women who have not gone through such a devastating event, in this case, Hurricane Katrina, in order to obtain data more representative of the entire population of interest. Furthermore, more studies should be done on traumatized participants in order to better understand the effects of trauma on healthcare compliance, which will provide further research based criteria for providing holistic healthcare.

Summary

The purpose of this study was to identify factors that inhibit compliance with Pap smear screening in African American women. Ninety-three African American women participated in this study. This chapter provides a discussion of the study findings, study conclusions, significance of the study, study limitations and recommendations for further studies.

The participants of this study received healthcare services in a public, urban clinic located in Southeast Louisiana. Participants received care from one of two clinic sites. The first site was a land-based clinic site, and the second site was a mobile clinic site. All participants were Hurricane Katrina evacuees. The mobile clinic site treated evacuees who lived in a FEMA trailer park. Participants were informed about the study, its purpose, and participant rights. Those agreeing to participate signed an informed consent. Participants filled out the demographics questionnaire and the PSABQ. Upon completion of the instruments, participants placed their filled previously coded forms in a plain brown envelope and returned the envelope to the receptionist's desk. Each participant was offered a water bottle upon return of the forms.

Descriptive statistics for percentages and frequencies identified cost and knowledge as major barriers to Pap smear screening compliance. An independent t-test identified knowledge and convenience as barriers to Pap smear screening, more often for land-based participants than mobile clinic participants; however, a significant difference was only found on the cost and the knowledge subscale. Additionally, the mobile clinic site participants identified

negative emotions more often as barriers to Pap smear screening than the land-based clinic participants, however, the difference was not found to be significant.

A Chi-square analysis showed a significant relationship between income, number of children given birth to, number of children living with the participant, age and distance from the clinic site and Pap smear screening compliance of all study participants. Additionally, a Chi-square analysis also found a relationship between land-based participants' Pap smear screening compliance and number of children given birth to by the land-based participant, as well as a relationship between mobile clinic site participants' Pap smear screening compliance and age, number of children given birth to and number of children living with the participant.

The study was limited by the use of a convenience sample, thereby minimizing its generalizability. Additionally, the study only included Hurricane Katrina evacuees that previously lost everything they owned following an extremely traumatic event. The self-report survey also threatens the validity of the study findings. It must also be noted that the participants were individuals seeking healthcare, which also impedes the generalizability of the study results.

However, the study findings are significant in providing information that can assist in planning appropriate, effective interventions that can increase compliance in Pap smear screening by the disproportionately affected African American female population.

APPENDIX A

Demographics Questionnaire

This study begins with a short questionnaire to obtain overall characteristics of those in the study. Please answer the following:

How old are you?

_____

What is your annual income?
____ under $12, 000
____ $12,000 - $20,000
____ $20,001 - $39,999
____ above $40,000

What is your current employment status?
____ Paid employment
____ Unpaid employment
____ Unemployed
____ Home duties
____ Student

Where is your location of residence?
____ Rural
____ Semi-rural
____ Urban

What is your marital status?
____ Married
____ Never married
____ Separated
____ Divorced
____ Widowed
____ Living with a significant other

Do you have any children?
____ Yes
____ 1
____ 2 – 3
____ 4 or more
____ No

Is English your main language?

_____ Yes

_____ No

Do you have a regular doctor?

_____ Yes

_____ No

To the best of my knowledge my last Pap smear was?

_____ 0-1 year ago

_____ 2-3 years ago

_____ more than 4 years ago

_____ Never

APPENDIX B

Pap Smear Attitudinal Barriers Questionnaire

Place an "X" in the column that indicates whether or not you agree or disagree with the following responses about Pap Smear Screenings.

	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
1. I've been afraid of what it might show.	___	___	___	___	___
2. A female doctor was not available.	___	___	___	___	___
3. I wasn't aware that it is recommended that all women have one every year or two.	___	___	___	___	___
4. I couldn't afford it.	___	___	___	___	___
5. A woman can tell if she has cervical cancer because she will feel sick.	___	___	___	___	___
6. I'd know if I had cervical cancer.	___	___	___	___	___
7. It is very unlikely that I will get cervical cancer.	___	___	___	___	___
8. I couldn't get one done in the evening.	___	___	___	___	___
9. Pap smears aren't effective in preventing cancer.	___	___	___	___	___
10. I couldn't get time off from my Job.	___	___	___	___	___
11. I couldn't arrange babysitting.	___	___	___	___	___
12. They cost too much.	___	___	___	___	___
13. My doctor did not recommend it.	___	___	___	___	___
14. I was afraid of the discomfort of the exam.	___	___	___	___	___
15. I've just been too busy.	___	___	___	___	___
16. I couldn't get one done on the weekends.	___	___	___	___	___
17. I dread the embarrassment of the exam.	___	___	___	___	___

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APENDIX C

THE UNIVERSITY OF SOUTHERN MISSISSIPPI

AUTHORIZATION TO PARTICIPATE IN RESEARCH PROJECT

I understand that I have been asked to participate in a study conducted by Valecia Carter-Vaughn (PhD. Student) from the University of Southern Mississippi, School of Nursing. The study is to identify what things make it difficult for me to get a Pap smear screening.

If I decide to participate, I understand that I will be asked to answer questions about personal data (age, income, marital status, geographic living area, employment status and history of doctor visits). I understand that I will also be asked questions about things that might make it hard for me to get a Pap smear. It should take less than 10 minutes to fill out both forms.

I understand that:

> Participation in this study is completely voluntary. If I decide I do not want to take part, it will not affect my care. I can refuse to participate at any time. All information collected will be strictly confidential and anonymous. My name will not be recorded on any data collection forms. There is no cost to me related to this project.

The benefits of this study is that it will assist the clinic in making plans to help women be able to get Pap smear screenings which can protect them from getting cervical cancer or help them to get treatment early if they already have cervical cancer.

If you have any questions about the research, please feel free to contact Dr. Anna Brock (Academic Advisor) at (601) 266-5490 or Valecia Carter-Vaughn at 504-872-0367 or you can reach her at vvaughn4@cox.net

This project and this consent form have been reviewed by the Human Subjects Protection Review Committee, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research participant should be directed to the Chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS 39406-0001, Phone: (601) 266-6820

Signature of Participant _____ Date _____

Signature of Investigator _____ Date_____

APPENDIX D

E
BMDS

Behavioral
Measurement
Database Services

Health and Psychosocial Instruments (HaPI)

Director: Evelyn Perloff, PhD
Behavioral Measurement
Database Services

HaPi Advisory Board

Aaron T. Beck, MD
University of Pennsylvania School of Medicine

Timothy C. Brock, PhD
Ohio State University. Psychology

William C. Byham, PhD
Development Dimensions International

Nicholas A. Cummings. PhD
Foundation for Behavior Health

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University of Pittsburgh, Communication

Sandra J. Frawley. PhD
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University of California at
Los Angeles, Psychology

Kay Pool. President *Pool, Heller & Milne, Inc.*

Ora Lea Strickland. PhD. RN. FAAN
Emory University Woodruff School of Nursing

Gerald Zaltman, PhD
Harvard University Graduate School of Business Administration

Stephen J. Zyzanski. PhD
Case Western Reserve University School of Medicine

Date: November 1, 2006

To: Ms. Valecia Carter-Vaughn

From: Evelyn Perloff, PhD

Enclosed is the:

Pap Smear Attitudinal Barriers Questionnaire
R. Branoff, K. Santi, J. K. Campbell, R. Roetzheim, and M. Oler

As I have indicated authors like to receive feedback on your study. All that is asked is that you provide a brief summary of your findings upon completion of your study/project. In addition, we encourage you to send a full report which we will consider for inclusion in Health and Psychosocial Instruments (HaPI) and which you may list on your vita/resume.

Enclosed also is an invoice. It covers the cost (e.g., handling, postage, and copyright fee) for these instruments.

Please note that the instruments are for a single study only. It is, of course, necessary to provide the appropriate title and author credit in reproduced material and in your report.

APPENDIX E

HUMAN SUBJECTS REVIEW FORM
UNIVERSITY OF SOUTHERN MISSISSIPPI
(SUBMIT THIS FORM IN DUPLICATE)

Protocol # 8705080/
(office use only)

Name Valecia Gail Carter Phone 504-872-0367

E-Mail Address vcarte@lsuhsc.edu

Mailing Address 836 Kathy Street, Gretna, LA 70056
(address to receive information regarding this application)

College/Division College of Health Dept Nursing

Department Box # 5095 Phone 601-266-5457

Proposed Project Dates: From May 28, 2007 To December 1, 2007
(specific month, day and year of the beginning and ending dates of full project, not just data collection)

Title A STUDY TO DETERMINE FACTORS THAT INHIBIT COMPLIANCE WITH ENGAGING IN RECOMMENDED

PAPANICOAOU SMEAR SCREENINGS IN AFRICAN AMERICAN WOMEN

Funding Agencies or Research Sponsors N/A

Grant Number (when applicable) N/A

5095 ___ New Project

x ___ (Dissertation) or Thesis

___ Renewal or Continuation: Protocol #

___ Change in Previously Approved Project: Protocol #

Valecia Gail Carter 5/2/07
Principal Investigator Date

[signature] 5/7/07
Advisor Date

[signature] 5/7/07
Department Chair Date

RECOMMENDATION OF HSPRC MEMBER

___ Category I, Exempt under Subpart A, Section 46.101 ( ) ( ), 45CFR46.

X Category II, Expedited Review, Subpart A, Section 46.110 and Subparagraph (9)

___ Category III, Full Committee Review.

Dr. Nedia T. _[signature]_ 6/15/07
HSPRC College/Division Member DATE

Laurina A. Heman 6-25-07
HSPRC Chair DATE

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