

BREAST AND CERVICAL HEALTH PROMOTION “DO IT FOR ME MOM”®.

A COLLABORATIVE EDUCATIONAL INTERVENTION PROGRAM

THESIS

SUBMITTED IN PARTIAL FUFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE OF MASTER OF SCIENCE

IN THE GRADUATE SCHOOL OF THE

TEXAS WOMAN’S UNIVERSITY

COLLEGE OF NURSING

BY

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AUGUST 2000

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Date July 10, 2000

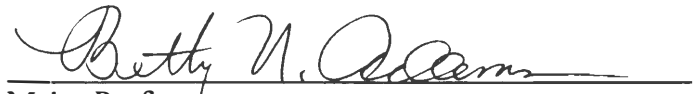
To the Associate Vice-President for Research
and Dean of the Graduate School:

I am submitting herewith a thesis written by Gracie Salazar

titled Breast and Cervical Health Promotion "Do It For Me Mom"

A Collaborative Educational Intervention Program


I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Nursing.


Major Professor Betty N. Adams, Ph.D.

We have read this thesis and
recommend its acceptance:


Dr. Gail C. Davis

Accepted:


Associate Vice-President for Research and
Dean of the Graduate School

DEDICATION

This thesis is dedicated to my family: Arthur Salazar, Sandra Salazar Villalobos, Alberto Ray Salazar, Annmarie Salazar. Without their love, support, encouragement, patience, and their continual belief in me, this thesis would never have been completed.

ACKNOWLEDGEMENTS

My ever heart felt gratitude is extended to Betty N. Adams, Ph.D., Gail C. Davis, Ed.D., Krista Cohlma, Statistician. This thesis would never have been completed without their expertise, encouragement, support, belief, and overwhelming kindness. A special thanks is extended to James Dzandu, Ph.D., for his unrelenting patience and guidance. I am most grateful to Dr. Adams for accepting the chair position for my committee. I will forever be grateful for her timeless effort and guidance.

BREAST AND CERVICAL HEALTH PROMOTION: “DO IT FOR ME, MOM”®, A
COLLABORATIVE EDUCATIONAL INTERVENTION PROGRAM

ABSTRACT

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The purpose of this pretest and posttest comparison study was to determine participants’ level of knowledge about breast and cervical cancer and prevention before and after an educational intervention. The study framework was based on Pender’s Health Promotion Model – Revised, Collaborative Theory, and the “Do it for me, Mom®” Program modeling a partnership among healthcare professionals and lay people.

This convenience sample included 163 women whose ages ranged from 17 to 76 years ($M = 33$, $SD = 11.89$). The findings indicated the following: 1) no significant differences of knowledge between groups prior to the educational intervention; 2) participants were willing to perform BSE, have CBE and appropriate mammograms, and have yearly Pap smears after the intervention; 3) although some participants were not willing to perform health promoting behaviors on the pretest, many changed their minds after the intervention. These implications will be helpful for future nursing practice in community settings. The conclusions show existing baseline knowledge among women regarding breast and cervical cancer health awareness. However, it is not sufficiently compelling to induce a change in behavior. Participants plan not only to participate in health promoting behaviors, but they also plan to become health advocates.

TABLE OF CONTENTS

DEDICATION	iii
ACKNOWLEDGEMENTS	iv
ABSTRACT	v
TABLE OF CONTENTS	vi
TABLE OF CONTENTS CONTINUED	vii
LIST OF TABLES	viii
LIST OF FIGURES	ix
CHAPTERS	
I	
Introduction	1
Problem of the Study	2
Significance of Study	3
Conceptual Framework	5
The Health Promotion Model	5
Collaborative Theory	7
"Do It for Me, Mom"®	9
Assumptions	11
Research Questions	12
Operational Definitions	12
Limitations	14
Summary	16
II	
Review of Literature	18
Breast Cancer	19
Cervical Cancer	23
Educational Programs for Conveying Knowledge	25
Collaboration	28
Health Promotion	28
Summary	30

III	Procedure for Collection and Treatment of Data	31
	Sample Setting	31
	Protection of Human Subjects	31
	Instruments	32
	Data Collection	33
	Treatment of Data	34
IV	Analysis of Data	36
	Description of Sample	36
	Findings	38
	Summary	44
V	Summary of Study	46
	Summary	46
	Discussion of Findings	47
	Conclusions and Implications	48
	Recommendations for Further Study	49
	REFERENCES	51
	APPENDICES	57
	APPENDIX A: Study Approval Letter	58
	APPENDIX B: "Do it for me, Mom"® Breast and Cervical Health Awareness Program Pretest	59
	APPENDIX C: "Do it for me, Mom"® Breast and Cervical Health Awareness Program Posttest	60
	APPENDIX D: "Do it for me, Mom"® Breast and Cervical Health Awareness Program Participant Questionnaire	61
	APPENDIX E: Frequencies and Responses to Item 8 of Pretest and Posttest	62

LIST OF FIGURES

Figures

1. Knowledge Comparison of Previous Participants and Non-participants	40
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LIST OF TABLES

Tables

1. Pretest and Posttest Comparisons of Intended Behaviors	41
2. Pretest and Posttest Comparisons of Intentions to Promote Health	43

CHAPTER I

INTRODUCTION

Both breast and cervical cancers constitute major health problems in the United States (U.S.) and continue to claim the lives of many women. Gynecologic cancers represent a major health concern. New cases of breast cancer for the year 2000 were estimated to be 182,800 with a mortality rate of 40,800. New cases of cervical cancer for the year 2000 were estimated at 12,600 with 4,600 deaths (American Cancer Society [ACS], 2000). The third most common cancer among women in the U.S. is cervical cancer (Cannistra & Niloff, 1996). Breast cancer is second only to skin cancer and it accounts for 32% of all newly diagnosed cancer in women (Kelsey & Bernstein, 1996).

Many factors influence not only whether a woman will develop breast or cervical cancer, but also how rapidly the disease progresses. Women who take part in early detection of breast and cervical cancer and have knowledge of these diseases, attained through educational programs, have a higher degree of survival rates (Mashburn & Scharbo-DeHaan, 1997). An educational intervention (i.e., *Do it for me, Mom® Cervical and Breast Health Awareness Program*) designed to identify risks for developing breast and cervical cancer through educational interventions serves as a vehicle for increasing knowledge (Adams, 1998).

The purpose of this study was intended to increase knowledge about breast and cervical cancer. Because women in general may neglect themselves in order to take care of their families, a means of meeting this gap is essential. Investigating a workable approach to meet the needs of working mothers is needed, particular interest are those women using daycare centers for the care of their children. The combination of the Health Promotion Model-Revised, and the Collaborative framework provided an organizing framework for implementing the *Do it for me, Mom*® program to address the identified need for breast and cervical health awareness and health promotion.

Risks associated with breast cancer include early menarche, late menopause, nulliparity, alcohol consumption, exposure to ionizing radiation, and a family history of a mother or a relative having the disease (Madigan, Ziegler, Benichou, Byrne & Hoover, 1995). Risk factors in the development of cervical cancer consist of coital activity at an early age; multiple sexual partners; history of sexually transmitted diseases (STDs), especially human Papilloma virus (HPV serotypes 16,18); exposure to diethylstilbestrol (DES) in utero; and cigarette smoking (Bosch et al., 1995; Crowther, 1994; Klingman, 1999).

Problem of the Study

Breast and cervical cancers constitute a major health problem in the U.S. and continue to claim the lives of hundreds of women. Breast cancer is second only to skin cancer and it accounts for 32% of all newly diagnosed cancers in women (Kelsey &

Bernstein, 1996). The National Cancer Institute estimates that 1 out of 8 women will be diagnosed with breast cancer during their lifespan. High mortality rates are accompanied by a significant degree of morbidity in cancer survivors. Gynecologic cancers alone represent a major health concern. New cases of breast and cervical cancer for the year 2000 were estimated to be 195,400 with 45,400 deaths (American Cancer Society, [ACS], 2000). These cancers, if detected early through regular breast self-examination or clinical breast examinations and Papanicolaou smear testing, can be prevented or retarded in their proliferation in nearly all cases (American Cancer Society, 1998; Koss, 1989). Many women, however, do not practice these health-promoting behaviors. Many mothers who work outside the home are at fault of neglecting themselves. They continue to take care of everyone else in the family except themselves (Adams, 1998).

Significance of Study

Breast and cervical cancers continue to take the lives of many women. This high mortality rate is accompanied by a significant degree of morbidity in cancer survivors. With the expanded life span of women today, coupled with the population explosion of the baby boomers, this problem can only get worse if it is not addressed.

Women who have participated in early detection of breast and cervical cancer and have knowledge of breast and cervical cancer risk factors attained through educational programs have shown a higher degree of survival rates, respectively (Mashburn &

Scharbo-DeHaan, 1997). Therefore, this study proposes to address the need of increased knowledge and health-promoting behaviors of working mothers by providing an educational intervention regarding breast and cervical cancer. This will be done by providing an educational program about breast and cervical health awareness at the centers where the working moms drop off their children.

An important element of health promotion is education. Breast and cervical cancer health awareness education by means of a collaboratively-based educational intervention program at day care centers provides a positive approach. This study is intended to determine the effects of an educational intervention regarding breast and cervical health awareness and to assist women in identifying and incorporating the risks for breast and cervical health awareness into their lives. Women, families, and communities will be the benefactors of such an educational endeavor. This approach based on the interpersonal influence and the health promoting behavior variables of the Health Promotion Model-Revised can influence more women to engage in breast and cervical health awareness. It is anticipated that an increased knowledge will be evident and that these women will develop and increase their “likelihood of engaging in health promoting behaviors” (Pender, 1996, p. 56) in the reduction of these cancers. This method promotes collaboration and health promotion.

Conceptual Framework

The conceptual perspectives guiding this study and the implementation of the “Do it for me, Mom” (DIFMM) program, include Pender’s Health Promotion Model-Revised (HPM-R) and the Collaborative Theory (CT). With today’s trend in health care focused on managed care, and with health insurance evolving in its acceptance of health promotion, this framework provides an attractive alternative. It forms a synergistic and collaborative approach to the health care needs of today and it asserts a positive approach for providing awareness of risk factors of breast and cervical cancer through interpersonal influences via educational interventions.

The Health Promotion Model

The Health Promotion Model aspires to delineate the many- faceted nature of individuals reciprocating with their community as they seek health (Pender, 1996). The premise is that individuals who place a high value on health will ultimately exhibit a “greater information seeking behavior” (Pender, 1987, p. 61). Greater information-seeking behavior can be promoted through the interpersonal influences of individuals interested in promoting health via educational programs. This is an alternative that can meet the health needs of working women, thus aiding these women in health promotion behavior.

Specifically, Pender (1996) states that the variable of interpersonal influences is

responsible for guiding the interaction required for health promotion. This variable is said to modify influences on health-promoting behaviors because of the interaction, instruction, and guidance offered by health professionals (Pender, 1987). With the assistance of this variable, the health seeker can move into the variable of health promotion behavior, which was also a focus of this study. Health-promoting behavior is impacted by interpersonal influences by either direct or indirect social pressures or motivation to commit to a plan of action. Individuals are more likely to take upon themselves behaviors for which they will be admired and socially reinforced if they are provided ample motivation to behave in a way consistent with interpersonal influences (Pender).

Health professionals serve as interpersonal influences of individuals, families, and communities. The health care provider can help in bringing about change by providing educational interventions. The variables, interpersonal influences and health-promoting behavior, from the HPM-R provide relevancy to this study. They assist individuals in modifying their present health behavior, especially since most of the causes of high morbidity and mortality are due, at least in part, to modifiable lifestyle behaviors (Pender, 1996) that can be addressed through educational interventions such as the DIFMM program.

Health education is purposeful toward increasing knowledge, which is directed toward health promotion and thus, a healthy lifestyle. It is just as important to improve the quality of life as it is to save it (Pender, 1996). Furthermore, Alto (1995) reiterates that clinicians have the responsibility of being more than “healers,” they should be “health advocates” (p. 544). Encouraging a healthy lifestyle is best in preventing the onset of disease or softening the effects of chronic disease (Alto, 1995).

Nurses are pivotal in providing educational interventions that lead to increased knowledge. Nurses offer opportunities and provisions of health-promotion services in many settings. They are suited for being advocates for health promotion. The role of the nurse includes serving as a role model and as a vehicle of health promoting behavior because of the ability to prescribe preventive measures and enhance health-promoting behavior. Such role models are needed not only to save lives, but also to improve the quality of lives (Pender, 1996).

Collaborative Theory

A collaborative approach is a synergistic means of meeting the needs and closing the gap for breast and cervical cancer awareness. This study proposes to close the knowledge gap through the DIFMM program, which is intended to increase knowledge of breast and cervical cancer. This pretest-posttest comparison study was used to determine participants' level of knowledge about breast and cervical cancer and behavior for prevention before and after an educational intervention. This study incorporated the HPM-R and CT in the implementation and exemplification of the DIFMM model. The

CT evolved from a major concern of society in the 19th century. The arrest of infectious diseases was the dominant consensus of that era. Through the collaboration and efforts between the medical and public health entities, the public's health concerns were best addressed. Both medicine and public health professionals felt their mission could not have been accomplished independently (Lasker, 1997).

Medicine and public health formed a union, which was responsible for the formation of public health statutes and regulatory boards in guaranteeing the public's health. In the course of time these entities began to see transformations. The medical and public health sectors began to differ in their philosophies. The discovery of antibiotics gave rise to a new philosophy. This way of thinking dealt with the treatment of disease rather than prevention. The public health sector focused on its own expectations (i.e., prevention). The programmatic activities of public health and medicine began to overlap less and less, leading to the total demise of the collaborative partnership (Lasker, 1997).

Changes and restructuring of the present health system forced existing philosophies to re-examine their roles. Today, both entities are presently under much duress because their environments are being altered continuously. Managed care and its dominant framework forced many health institutions to reassess their stance. Medicine and public health redefined their relationship. It has been realized that it takes more than one discipline to provide adequate health care these days. Societal demands have brought about constraints which served as a vehicle in the reconciliation of both of these two entities (Lasker, 1997).

entities (Lasker, 1997).

In response to today's challenges, nursing and public health leaders, through combined health initiatives, are collaborating to make a difference in meeting the demands of the present health care system. Collaboration and health promotion, which involves engaging the community as participants, is the goal of such partnerships. Of importance is the mounting of ongoing educational campaigns in the community (Lasker, 1997). The collaborative framework with its objective of entrusting the community in being involved in its own health care and organizing health educational campaigns has the potential to meet today's challenges. Like the CT, the HPM-R, with its utility and applicability of health promotion through interpersonal influences, is a promising framework. These models have, as core concepts, the development of community-based educational intervention strategies.

Do it for me, Mom®

Do it for me, Mom® (DIFMM) is a community program founded with the objective of serving as a "conduit" (Adams, 1998) in the delivery of educating women in nonconventional sites. Of particular interest are the women who work outside the home and who are the primary caregivers in their households. These women too often rely on the help of child-care centers for the care of their children while they are employed outside the home. Frequently, these women "care for everyone else in their lives and neglect the most important person--themselves" (Adams, 1998, p. 1); therefore an approach, which can address these women's needs, is appropriate and needed.

Do it for me, Mom® is a community outreach program which links with child-care centers and related sites in providing educational programs. The education offered covers related topics of breast and cervical cancer health awareness. Women who rely on the centers for the care of their children are able to receive education on the risks for breast and cervical cancer development and strategies for reducing the risks of these cancers. DIFMM is a collaborative health promotion community effort for breast and cervical cancer control.

Do it for me, Mom® formulated a partnership with child-care providers, volunteers in the community, and other agencies in 1997 to assess women's need for education and screening on breast and cervical cancer control. Approximately 1,026 women who utilized the services of the day-care centers participated in the survey, which was conducted at the centers. The tabulated results of the survey indicated that women desired to learn more about the risk factors associated with breast and cervical cancer. A previous investigation shows that women do have a strong desire to attend educational classes to learn about breast and cervical cancer health awareness. Additionally, the women indicated a desire to receive information and screening for breast and cervical cancer. The goal of the partnership was stated as one of educating and screening women regarding breast and cervical cancer at “nontraditional sites” (Adams, 1998, p. 6).

The DIFMM builds, supports, and strengthens collaboration among state and local governments and medical and public health professionals to improve public health regarding breast and cervical incidence and prevalence among women. Through the

regarding breast and cervical incidence and prevalence among women. Through the DIFMM, women's lives are saved and families are maintained. Because women are important members of society and because many women are the primary caregivers, this approach is amenable to today's health care needs.

Assumptions

The following assumptions are derived from the HPM-R (1996):

1. Health professionals constitute a part of the interpersonal environment, which exerts influence on persons throughout their life span.

The following assumptions were derived from the Collaborative Theory (1994):

1. Engaging the community is an important component of increasing knowledge (Lasker, 1997).

1. Changing the education process can be accomplished by mounting health education campaigns in the community (Lasker, 1997).

The following assumptions were derived from a personal philosophy of the investigator:

1. Education is an important means of providing information to assist individuals in self-health promotion practices.
2. Knowledge gained is knowledge to be shared.
3. A community working collaboratively is able to lighten its health problems.

4. A community will collaborate to meet its health care if provided with goals and objectives.

5. Health providers have the responsibility to impart knowledge.

Research Questions

Specifically, the secondary analysis of the data is designed to answer the following questions:

1. How much knowledge do women have of risks for breast and cervical cancer before their participation in an educational program?

2. What will women do to promote personal health to reduce breast and cervical cancer risks?

3. Does participation in an educational program lead to increased knowledge of breast and cervical cancer risks and ways of promoting health?

Operational Definitions

Since the key terms were defined in the original research, the operational interpretation of each was clarified for this study.

1. Participants in the educational program on breast and cervical health awareness are all women, 17 years and older.

are all women, 17 years and older.

2. Participant's level of knowledge is the measure before and after participation in an educational program on breast and cervical health awareness.

3. Health-promotion is the measure before and after participation in an educational program about risks for reducing breast and cervical cancers.

4. SURVCAT is a categorical variable created to measure the participants combined responses for item No. 1 in the *Do it for me, Mom® Cervical and Breast Health Awareness Program Participant Questionnaire*.

5. APAPCAT is a categorical variable created to measure the participants combined responses for item No. 6 in the *Do it for me, Mom® Cervical and Breast Health Awareness Program Participant Questionnaire*.

6. INMAMCAT is a categorical variable created to measure the participants combined responses for item No. 9 in the *Do it for me, Mom® Cervical and Breast Health Awareness Program Participant Questionnaire*.

7. AMAMCAT is a categorical variable created to measure the participants combined responses for item No. 3 in the *Do it for me, Mom® Cervical and Breast Health Awareness Program Participant Questionnaire*.

8. Collaboration is defined as the process of recruiting a combination of professionals, lay people, and appropriate disciplines in developing partnerships to address the needs of individuals, groups, families, and communities. The term "partnering" is used synonymously with collaboration in this study.

9. Nontraditional Site is defined as any place used for teaching outside of the normal healthcare-related office visit. It means that a nonconventional method of conveying knowledge is being used. Nonconventional is synonymous with nontraditional.

Limitations

Limitations are uncontrolled variables that may affect study results and limit the generalizability of the findings. All too often uncontrolled variables affect research study results; therefore, a researcher may identify these limitations to the study early in the research process. This provides the reader the unnecessary pursuit of the limitations (Nieswiadomy, 1993). In this study a pretest questionnaire of 8 items was used to determine the level of knowledge prior to the introduction of an educational intervention. After the completion of the educational intervention, a posttest was administered to determine the effect of the provided intervention (see Appendices B and C). The possible ways in which the instrument may limit interpretation of study results is acknowledged as listed below.

Analysis of question number 1, *How important do you think it is for a female to perform breast self-examinations (BSE)?*, may show bias. Since many women have probably heard about the importance of BSE, prior knowledge may exist and could result in an absence of knowledge gained about breast and cervical cancer awareness.

Analysis of question number 2, *How important do you think it is for a woman to*

receive a Pap smear every year?, brings to question the term "important". Clearly, this term is a relative one, depending on what is going on in a woman's life. Importance placed on this question may be determined by such factors as feeding the family. Women may believe that it is important to participate in health promoting behaviors, but choose to buy groceries instead of attending to personal care.

Analysis of question number 3, *The breast self-examination is composed of how many different steps?*, is somewhat misleading because there are many pamphlets that differ in their presentation. Certain literature appears to present more than three steps.

Analysis of question number 4, *Most breast changes (lumps, discharges, etc.) indicate the presence of cancer?*, may be misleading because it does not take into consideration certain times of menstruation cycle when the breast tissue may feel lumpy. It does not consider fibroid tissue with asymmetrical tissue densities.

Analyses of question number 5, *If you are still having a period, when should you examine your breast?*, may be misleading because it can be read as if only those women who have a menstrual period should examine their breasts.

Analysis of question number 6, *The number of sex partners a woman has may increase her risk of cervical cancer?*, may be misleading because studies have shown cervical cancer development in women who have not engaged in sexual intercourse.

Analyses of question number 7, *When should you have your first Pap smear?*, may be misleading because of the choices provided. The choice "age 18" or "when you first have sex" would be best addressed if combined as one.

Analyses of question number 8 focuses attention on cognitive behaviors and procedures that are consistent with the HPM-R. Of particular interest regarding possible misinterpretation of the question is the following: *Which of the following will you do? Have a yearly clinical examination and mammogram (if you are age 40 or older).* This statement can be misleading because it should have been developed as two separate questions. One question should address the clinical breast examination. The other question should address the mammogram. The data analysis can become skewed when the respondent has difficulty comprehending the question correctly.

Another limitation is that of self reporting. The accuracy of the data is dependent on the memory and perception of the individual respondent.

Summary

Researchers already have abundant evidence related to certain risk factors in the development of breast and cervical cancers. Moreover, much of the research efforts have been concentrated on ways to prevent or treat these diseases. The integration of the HPM-R and CT as a framework for implementing an educational program at unconventional sites accessible to individual participants provides a unique approach that was the basis for this study. The partnership of these entities provides a nontraditional method of health promotion. Because tomorrow's health is affected by today's health promoting practices it is important to assist the working women in their risk reduction efforts related to these diseases.

Diseases with risk factors have become tragically common, compounding the issue is the increase in life expectancy and the increase in the older adults (Lasker, 1997). To address this problem the development and implementation of a collaborative community-based educational intervention program was studied as a method of increasing health awareness and reducing the risks associated with these cancers. This study stands as an advocate for the highest quality of health care possible for it is hoped that this collaborative framework can strengthen knowledge of risk factors and health promotion methods for breast and cervical cancer health awareness. Since women continually fail to carry out valuable health practicing behaviors, collaborative community educational intervention programs at nontraditional sites have merit.

CHAPTER II

REVIEW OF THE LITERATURE

Breast and cervical cancer continues to be a major health problem of today's society. In spite of the fact that their risk factors have been well documented, little is known about how to reduce them. There are few strategies in existence to assist women in their risk reduction efforts. Because of the magnitude and ramifications of breast and cervical cancer if not detected early, effective strategies must continue to be researched. This investigation of a community-based educational intervention explores the effectiveness of support and collaborative partnerships in advocating women's knowledge of breast and cervical cancer control. The facilitation of health-promoting behaviors in a collaborative partnership is essential. Frameworks of this caliber bring a better understanding over of areas concern to families who share neighborhoods, experiences, and workplaces (Fawcett et al., 1995). An understanding of the risk factors associated with breast and cervical cancer is necessary prior to the inception of educational intervention partnerships.

Breast Cancer

Findings of De Sanjose, Viladiu, Cordon, Vilardell, and Izquierdo, (1998) strongly support an association between breast cancer development and family history. This particular study indicated that 18.5% of breast cancer cases had a positive family history for breast cancer, indicating a positive correlation between breast cancer and family history. In 10.6% of the cases, family history of breast cancer in a first-degree relative (mother or sister) was present. Similar findings were reported by Hulka (1996) in which an increased risk of two- to three-fold in women with a family history of cancer was found.

A more precise determinant of breast cancer is the inheritance of BRCA-1 gene. Recent investigations completed by Schultz, Ward, and Reed (1996) stated that women with BRCA-1 gene have an “80% lifetime risk of developing breast cancer . . . ten-fold higher than women without” (p. 1861). These findings are clinically significant because of the implications for early diagnosis of breast cancer.

Early menarche is another risk factor that is associated with the development of breast cancer. The study conducted by Peeters, Verbeek, Krol, Matthyssen and deWaard, (1995) showed that a 2.2 times (95% confidence interval: 1.2-4.0) higher risk for breast cancer was evident in women with a menarche age of 10 or 11 years compared to women who had their first menstrual period at 12 years of age or older. Apter (1996) revealed insight into the physiology of menarche that helped in understanding the association

between early menarche and breast cancer. Apter's study showed that there is a greater amount of follicle stimulating hormone and estradiol earlier in a woman's life. Apter reiterated that the increased estrogen and progesterone normally seen exhibited in early menarche females could lead to a higher induction of breast epithelial proliferation. Hence, a higher risk of breast cancer ensues. Russo and Russo (1995), in a study with rats, exhibited a neoplastic transformation occurrence because of the abundant proliferation and undifferentiating phase evidenced in these young rats.

Late menopause is also considered a cofactor in the development of breast cancer. Colditz, Rosner, and Speizer (1996) reiterated that endogenous estrogens are factors that may lead to the development of this disease. This study showed strong evidence suggesting a causal link between duration of endogenous estrogens and breast cancer incidence in postmenopausal women (Colditz, Rosner, and Speizer). Hence, the longer the exposure, the greater the risk in the development of cancer. According to Pike, Spicer, Dahmouch, and Press (1993), a female with an early onset of menarche coupled with a late onset of menopause is at an increased risk of breast cancer. Using a biophysical approach Khan, Rogers, Khurana, Meguid, and Numann (1998) postulated that over expression of estrogen receptors in normal breast epithelium augments estrogen sensitivity and increases the risk of breast cancer. Thus, approaches from three different disciplines provide strong evidence linking estrogen with the development of breast and cervical cancer.

Nulliparity has been known for quite some time to be associated with an increased risk of breast cancer development. Nulliparous women are at a greater risk for this disease compared to parous women (Kelsey, Gammon & John, 1993). The results of a study conducted by Madigan et al. (1995) agree that breast cancer is attributable to the well-established risk factor of nulliparity. This study utilized data from the first National Health and Nutrition Examination Survey (NHANES I), Epidemiological Follow-up Study (NHEFS), and the survey and follow-up of a probability sample of the U.S. population ventured to estimate the fraction of breast cancer cases associated with nulliparity located in the U.S. The study entailed the recruitment of approximately 193 breast cancer cases. It calculated relative risks (RR), population attributable risks (PAR) and incidence rates. The conclusions indicated that the PAR estimate suggested that one of the risk factors contributing to a large fraction of United States breast cancer cases was indeed nulliparity. Relative risks, on the other hand, were modest but their prevalence was high, suggesting that breast cancer in the United States is explained by “well-established risk factors” (Madigan et al., 1995, p. 1681).

The risk of breast cancer and its association to alcohol consumption has been widely studied. A meta-analysis study by Longnecker, Berlin, Orza, and Chalmer (1988) in reference to dose response resulted in a strong association between alcohol consumption and the risk of breast cancer development. Chu, Lee, Wingo, and Webster (1989) conducted a study that assessed the risk of breast cancer and its association to alcohol consumption. The results indicated a positive association between the risk factor of

alcohol consumption and the development of breast cancer. Interestingly, this study showed a linear relation in alcohol consumption and the incidence of this disease, suggesting a dose response relationship.

Another co-factor yielding a female's susceptibility to breast cancer is radiation exposure. Russo and Russo (1995) stated that several studies have purported the existence of mammary gland malignancy development related to radiation exposure, a carcinogenic stimulus. The data derived from the work of Boice, Preston, Davis, and Monson (1991) reiterated that breast tissue is highly sensitive to carcinogenic forces of radiation. They assert that "radiation fractionated exposures are similar to single exposures of the same total dose in their ability to induce breast cancer" (p. 221). Radiation is postulated to increase the risk of breast cancer because of its transmission of radioisotopes on young female's mammary glands. The reason being that breast tissue of young females is said to be in a highly proliferating and undifferentiating state. In fact, this hazard remains high for many years after exposure, thus leading to increased risk of breast cancer development (Russo & Russo).

Oral contraceptives utilization has been cited as determinates of breast cancer risk development. The study guided by Chie et al., (1998) elucidated that the use of oral contraceptives significantly increased breast cancer risk. However, this elevation was dependent on whether the oral contraceptives were taken before the age of 25 and before 1971. Much higher risk among post-menopausal women who used oral contraceptives for less than 1 year was found (Chie et al.).

Cervical Cancer

The third most common cancer among women in the U.S. is cervical cancer, according to Cannistra and Niloff (1996), and it is the second most common worldwide. A number of epidemiological studies in the West have established a link between cervical cancer and early sexual activity and promiscuity (Biswas, Manna, Maiti, & Sengupta 1997).

The work of Seidman, Mosher, and Sevgi (1992) concur with the statement that women who initiate sexual activity at an early age are at an increased risk for developing cervical cancer. Data for this study were obtained from a secondary data source and it used personal interviews with 5,354 white women, 2,771 black women, and 325 women of other races. Data were collected on topics such as their reproductive health, age at first intercourse, and number of recent sexual partners. The sample was composed of 7,011 women who reported having sexual intercourse in the year preceding data collection. The results were significant in showing sexual intercourse at an early age increased the chance of introducing carcinogenic agents into the cervical epithelium. Their study showed that coition is an essential condition for the evolution of cervical neoplasia. Bornstein, Rahat, and Abramovici (1995) reported in a similar study that, because metaplasia occurs during the adolescent years, it thus increases the vulnerability of the cervix for carcinogens.

Human Papilloma viruses' serotype (HPV) 16 and 18 are associated with the etiology of cervical cancer (Venuti et al., 1997). This virus is said to bring about

carcinogenic changes in the cervix. There are only certain types that carry a higher propensity for malignant transformation (Paz-Combes, Zaitzman, Cirac, & Alvarado, 1997). The risk of HPV is associated with the epithelial cell make-up of the genital tract; therefore, women who engage in sexual relations earlier in their lives with multiple sexual partners increases the probability of cervical cancer development. The work of Biswas et al., (1997) depicted HPV as the principal candidate for the sexually transmitted etiology factor in cervical cancer.

A case-control study conducted in England showed a strong affiliation between the number of sex partners and the development of cervical cancer. Multiple sexual partners are considered a risk factor in the occurrence of cervical cancer because it increases the likelihood of introduction of infection with HPV (Bornstein, Rahat, and Abramovici, 1995).

The potential for cervical cancer in relation to diethylstilbestrol (DES) exposure has also been identified as a risk factor. Diethylstilbestrol, according to Tournaire, Lepercq, and Epelboin (1997), was the first synthetic estrogen manufactured in 1938. This estrogen was prescribed to prevent a miscarriage in the early stages of pregnancy. The work of Malone (1993) supported a positive association between breast cancer risk and DES. It was discovered that DES caused serious damage to the cervix in utero and when accompanied with medical abnormalities it increased the risk for breast cancer development.

Nicotine and other chemicals, the by-products of smoking, affect more than just the lungs. These harmful substances have been linked to cervical neoplasia. A study by Runovicz, Lymberis, and Tobias (1997) showed a strong association with cigarette smoking and identified lifestyle behaviors as co-factors in cervical cancer. Direct or indirect association has linked these risk factors to the development of cervical cancer. Furthermore, the study revealed that constituents were found to be concentrated in cervical tissue, a clinically significant observation. Also, Sasson, Haley, and Hoffman (1985) demonstrated a link between cervical cancer and cigarette smoking. Their study conclusively demonstrated that cotinine and nicotine was present in localized cervical mucus than in serum. Of clinical significance is that tobacco-specific carcinogens were identified in the mucus of the cervix of smokers.

Educational Programs for Conveying Knowledge

The education of individual patients, families, and communities has been a responsibility of nursing for many years. Educational interventions bring about, in most cases, positive outcomes. Community educational interventions assist individuals in identifying risk factors that may affect their health. Furthermore, previous investigations have illustrated how collaboration can work to affect growth in knowledge through educational programs. These studies cover a myriad of settings, diseases, and conditions. Their ultimate goal remains the same, that collaborative partnerships are important in the promotion of health, not only to individuals and families, but also to communities. The

group. A one-page educational handout explaining the reasons for their referral were mailed out to the participants in the experimental intervention group 1 week prior to the participant's scheduled appointment. The control group did not receive the educational pamphlet. The women, arriving at their appointment, were asked to participate in the study. The results were analyzed and the conclusions indicated that the women in the intervention group, which received educational information, demonstrated considerably increased knowledge about the reasons for their referral (Tomaino-Brunner, Freda, Damus, & Runovicz, 1998).

Dignan et al. (1996) designed a study to increase screening for cervical cancer among Native American women. This study evaluated the effectiveness of an educational intervention in the Eastern-Band Cherokee target population. The intervention's approach was an individualized health education program that was conducted by female Cherokee lay health educators. There were women who received an educational program and those who did not receive an educational program. Results showed that the women who did receive the education program exhibited a greater knowledge about cervical cancer prevention and were more likely to have reported having had a Pap smear within the past year than women who did not receive the programs. Thus, efforts in increasing knowledge regarding risks associated with breast and cervical cancer through educational interventions can make a difference in an individuals', families', or communities' way of health-promoting behaviors (Dignan, et al.).

Collaboration

The writings of Lee and Cohen (1995) expound on the term of collaboration which has evolved as an important concept for the nursing profession. Models of collaboration are being promoted and accepted for utilization by professional organizations as well as accreditation agencies. The National Joint Practice Commission American Association of Critical Care Nurses, National Institutes of Health, Joint Commission for Accreditation of Health Care Organizations, Medicine and the Public Health Initiative (Lasker, 1997) are advocates of the collaboration theory. This concept continues to be pursued as an exceptional avenue of improving patient outcome along with improving working relationships by generating a commitment to collective objectives and shared visions. Collaboration creates a nurturing and supportive milieu that brings about great benefits to individuals, “hence reinforcing feelings of competence, self-worth and importance” (Lee & Cohen, 1995, p. 107), which is an important concept in health promotion.

Health Promotion

The health care of today is a dynamic process that continues to change everyday. It must change to provide access to health promotion programs and services for not only families and individuals, but also for communities (Pender, 1996). Health promotion includes promoting healthy lifestyles, strengthening community action, and creating supportive environments for health regardless of the setting (Pender, 1996). A number of studies based on the HPM-R have been published. The following is an example of the

importance of health promotion.

A descriptive study conducted by Strickland, Squeoch, and Chrisman (1999) was designed to gain an increased understanding of the importance of the Yakama Indian women's religion and its relation to health promotion. A survey questionnaire found that the efforts in educating these women needed to be directed toward provider education. The provider needed to learn to communicate with the women of the study by learning about their religious practices. The results showed that the best teaching method for the Yakama Indian women included such attributes as storytelling and circular models of communication. The powerful symbol of unity in the Yakama women was the circle, thus requiring that the educators have an understanding of nonconventional methods of conveying knowledge.

In a study of a multicultural population of 179, European-American (51%), Hispanic (27%), and African-American (20%), blue-collar workers examined the prediction of a health-promoting lifestyle using the HPM-R. The variables, which were tested and assessed, found that the interpersonal influence variable was reflective of making a difference in health-promoting behaviors (Wetzel, 1989).

Researchers evaluated the HPM-R explanatory potential for health promoting lifestyles. In this study the sample population consisted of 589 employees enrolled in six employer-sponsored corporate health promotion programs. The sample was derived from a large metropolitan area. One purpose of this study was to test the usefulness of the HPM-R in explaining the occurrence of health-promoting lifestyles among employees

who had made an initial commitment to change health habits by enrolling in workplace health promotion programs. The conclusions showed that cognition of health promoting lifestyle practices were related to the belief that powerful others (i.e., health care practitioners) played a significant role regarding health promotion (Pender, Walker, Sechrist, & Frank-Stromborg, 1990).

Summary

The use of educational programs in conveying knowledge has been a cornerstone of the nursing profession for years, but it has been only recently that the health promotion concept has become a core concept of today's health care system. Health care is a dynamic process that demands more than one approach to improving health outcomes; thus, involvement of more than one discipline and the involvement of more than one framework are required. This present study incorporates the use of the HPM-R and the CT with the implementation and exemplification of the DIFMM educational program to provide breast and cervical health awareness is a good fit for today's health care needs.

CHAPTER III

PROCEDURE FOR COLLECTION AND TREATMENT OF DATA

This study was designed as a pretest and posttest comparison between participants before and after an educational intervention on knowledge of risks and strategies to promote breast and cervical health awareness. The data were analyzed through measures of descriptive and inferential statistics. The study utilized a secondary data source from *Do it for me, Mom® Cervical and Breast Health Awareness Program*.

Sample and Setting

The sample was a non-random, convenience sample comprised of 163 women of the population previously studied by Adams (1998). The sample participants were all women: mothers, grandmothers, aunts, and friends of children attending 50 day-care centers in the Southern Region of the United States.

Protection of Human Subjects

The approval to conduct this study was granted from Texas Woman's University

Human Subjects Review Committee (HSRC). Because the study used data from a secondary source and did not require a signed consent form, the signatures of subjects with the HSRC were not required (see Appendix A).

Instruments

Three instruments were used to collect data in this study: *Do it for me, Mom® Cervical and Breast Health Awareness Program Pretest*, *Do it for me, Mom® Cervical and Breast Health Awareness Program Posttest* and *Do it for me, Mom® Cervical and Breast Health Awareness Program Participant's Questionnaire*. All three instruments were developed by the *Do it for me, Mom® Cervical and Breast Health Awareness Program* in 1998 (Adams, 1998).

The intent of the pretest and posttest was to measure the participant's knowledge of breast and cervical health awareness and health promotional strategies for reducing risks for breast and cervical cancer. The items in the pretest and posttest were open-ended questions in which the participants were permitted to choose responses from a predetermined list of personal perceptions (Polit & Hungler, 1995). The posttest instrument consisted of the same questions as for the pretest with one exception. Question number 8 measured an added choice response, which measured whether the participant would share the educational information on breast and cervical health awareness with another person.

The third instrument, entitled *Do it for me, Mom® Cervical and Breast Health Awareness Program Participant Questionnaire*, was utilized to collect demographic information and measure the participant's perceptions related to the need for breast and cervical health awareness. This instrument obtained information on the participant's willingness to attend an educational class on breast and cervical health awareness and about whether she had attended any educational classes on the same subject prior to this study's intervention.

The validity of the instruments used in the study was determined prior to their use in the original pilot study by an expert panel of the DIFMM committee members. The expert panel reviewed the instruments' items for content validity.

Data Collection

The data for this study were collected utilizing the instruments: *Do it for me, Mom® Cervical and Breast Health Awareness Program PreTest*, *Do it for me, Mom® Cervical, and Breast Health Awareness Program PostTest*, and *Do it for me, Mom® Cervical and Breast Health Awareness Program Participant Questionnaire* (see Appendices B, C, & D). The questionnaires sought to measure the participant's knowledge of breast and cervical health awareness and knowledge of strategies for health promotion to reduce the risks of breast and cervical cancers. The treatment (educational intervention) was a 20-minute lecture and related demonstration on the topics of

performing breast self-examinations, frequency of clinical breast examinations, recommended protocol for mammography and pelvic examinations, and the Papanicolaou smear test. Learning models included handouts and videos on breast and cervical health awareness. A full-size breast model with simulated lumps (masses) was demonstrated and made available to the participants for practice. Additionally, time was allowed during and after the intervention for questions and answers.

Treatment of Data

The data were analyzed using Statistical Packages for the Social Sciences (SPSS) for personal computer. Analysis of data included descriptive and inferential statistics, one sample t-tests, an analysis of variance (ANOVA), and cross tabulations. A convenience sample of 163 women comprised of the population previously reported in the *Do it for me, Mom*® survey (Adams, 1998) served as the participants for this investigation. In the above survey 78 % (1,026) of the participants expressed a willingness to take part in a future educational intervention program for breast and cervical health awareness.

Participants were all women: mothers, grandmothers, aunts and friends of school-age children who were attending 50 day care centers throughout the northeast section of the Southern Region of the U.S. Because the data utilized were of a secondary data source and since there was no identification in coding of the individual participant's responses to the instruments, data were aggregated for treatment and combined categorical variables

for addressing research questions 1 and 2. These categorical variables were created from the DIFMM Participant Questionnaire and were entitled (a) “SURVCAT,” which meant, “Did you complete a “*Do it for me, Mom*”® Female Parent/Guardian Survey between April and June, 1997 at this center or at Stand for Healthy Children event on June 1, 1997?”, (b) APAPCAT,” which meant, “Age at first Pap smear, (c) “INMAMCAT” which meant, “Do you have health insurance which covers mammograms?” and, (d) “AMAMCAT,” which meant, “If yes, how old were you when you had your mammogram. Both APAPCAT and AMAMCAT scores were arrived at by the use of terciles to get “low”, “median,” and “high” categories. The SURCAT variable, categorized as whether or not the participants' had previously completed a questionnaire (and thus had likely participated in a previous program) provided the independent variables for comparing participants' knowledge scores. This comparison was made prior to further analysis that examined pretest and posttest differences.

CHAPTER IV

ANALYSIS OF DATA

This study was designed as a pretest and posttest comparison between participants before and after an educational intervention on knowledge of risks and strategies to promote breast and cervical health awareness. The data were analyzed through measures of descriptive and inferential statistics. The research questions and their respective findings will be presented in this chapter.

Description of Sample

A convenience sample of 163 women comprised of the population previously reported in the *Do it for me, Mom* ® survey (Adams, 1998) served as the participants for this investigation. In the above survey 78 % (1,026) of the participants expressed a willingness to take part in a future educational intervention program for breast and cervical health awareness. Participants were all women: mothers, grandmothers, aunts and friends of school-age children who were attending 50 day care centers throughout the northeast section of the Southern Region of the United States.

Of the 163 participants, 151 provided demographic information. Participants' ages ranged from 17 to 76 years of age with a mean age of 33 years ($SD = 11.89$). The reported age for having the first Pap smear ranged from 13 to 41 years of age, and the age for having first mammogram ranged from 16 to 53. There were approximately 68 % (108) who reported having health insurance to cover the cost of a Papanicolaou (Pap) smear. Overall 78% of the participants reported having “other” health coverage.

Of the 153 who responded to the insurance items, the results were as follows: 34.6% (53) had Health Maintenance Organization (HMO) insurance, 13.7 % (20) had Medicaid, 0.6% (1) had Medicare, and 51.6% (79) had no insurance. There were 77% (122) who reported not attending a cervical education program previously. Likewise, 66% (102) of the 153 reported not having attended a program on breast and cervical education in the past. In summary, 37.2% (57) of the participants had completed the *Do it for me, Mom® Cervical and Breast Health Awareness Program Participant* survey prior to the study.

All 163 participants in the sample completed the pretest and posttest comprised of 8 items as delineated in DIFMM Cervical and Breast Health Awareness Program Pretest and Posttest instruments (see Appendix B & C), although the number responding to each item varied. The items were the same for both the pretest and posttest with the exception of an added question to the posttest asking participants whether they would share the information they had learned on breast and cervical health awareness with another person.

Frequencies and percentages of responses to the 8 items on the pretest and posttest

instruments are presented in Table 1. (insert table here) This gives a visual presentation of the responses to each item options so that changes can be examined. “*How important do you think it is for a woman to perform a breast self-exam (BSE) every month?*” contained five possible choices: “very important,” “important,” “somewhat important,” “not too important,” or “unsure.” The pretest results showed that 76.7% (125) of 133 responding indicated it was very important.

At posttest, 81.6 % (133) said it was very important. “How important do you think it is for a woman to receive a Pap smear every year?” served as item two. The pretest results showed that 83.4% (136) indicated it was very important. Posttest results showed that 79.8% (130) said it was important. On the third item the participants were asked if most breast changes (i.e., lumps, discharges, etc.) indicated the presence of cancer. This was a true or false option. The pretest and posttest results were relatively the same: pretest resulted in 64.5 % false (105) and posttest resulted in 65.6% false, (107). Of the item which asked when should a woman examine her breasts, the majority of participants selected the choice “one week after your period,” pretest resulted in 64.4% (105), posttest resulted in 69.3% (113).

Findings

In this section, data analysis techniques are presented in reference to each of the three research questions. Prior to the collection of data, the .05 level of probability was

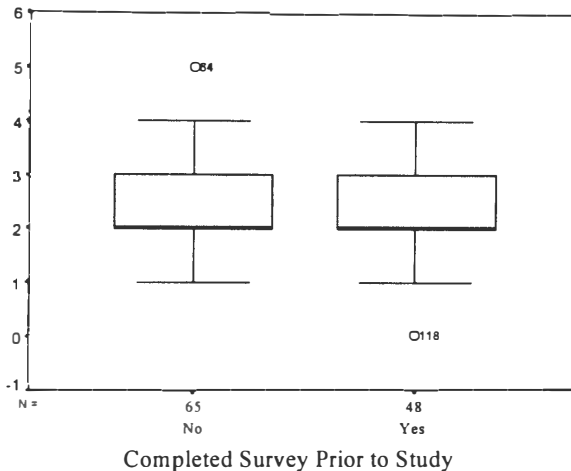
selected to determine significance of research findings when appropriate to the test. "Yes" or "no" categorical variables were created on data generated from the participant questionnaire (see Appendix D) questions 1, 8, and 9. These variables are abbreviated as follows: item 1: survey category (SURVCAT); item 8: insurance for Pap smear category (INPAPCAT); item 9: insurance for mammogram (INMAMCAT). Other categorical variables were developed based on the terciles of the sample for the variables age at first Pap smear (item 6) and age at first mammogram (item 3). These were noted as APAPCAT and AMAMCAT, respectively.

Research Question One

Before answering the first question: "How much knowledge of risks of breast and cervical cancer do women have before their participation in an educational program?" analysis of variance (ANOVA) was used to determine whether there were knowledge differences between those who were categorized as "yes on the SURVCAT variables and those categorized as "no". There were no significant differences of knowledge between groups prior to the educational intervention (see Figure 1), thus making it acceptable to look at all the pretest scores without regard to grouping.

Figure 1. Research Question 1:

Knowledge Comparison of Previous Participants and Non-Participants



The scores from the DIFMM Cervical and Breast Awareness Program pretest (items 1-7) indicate a moderate knowledge level. Correct answer percentages ranged from 28% on item 3 to 87% on item 2. Information of greatest need included items 1, 6, and 7 (see Appendix E).

Research Question Two

To address research question two, "What will women do to promote personal health to reduce breast and cervical cancer risks?" responses to the instrument's question items 8a through 8d was analyzed (see Appendix C). The pretest and posttest scores were used for this analysis. Results indicated that, prior to the education intervention, 53 % (81) of the participants reported that they would perform breast self-examinations (BSE) monthly, and after the educational intervention there were 90 % (123) stating they would

perform BSE monthly. There were 42% (69) who stated they would have a yearly clinical breast examination and mammogram; this changed to 67%(90) after the educational intervention. Prior to the educational intervention there were 83% (135) of the participants who said they would have yearly Pap smears; 90% (121) responded that they would after the educational intervention. These scores did indicate change following the educational program. A one sample t - test was used to determine whether the differences in the intention to perform BSE, CBE and mammograms and have yearly Pap smear were significant. These results were significant; respectively, they are as follows: $t = 13.029$, $df = 153$, $p = <.000$; $t = 35.739$, $df = 135$, $p = <.000$; $t = 5.821$, $df = 162$, $p = <.000$; $t = 16.371$, $df = 134$, $p = <.000$; $t = 9.049$, $df = 162$, $p = <.000$.

Further analysis of the intended behavioral responses was done using contingency tables (see Table 1).

Table 1

Pretest and Posttest Comparisons of Intended Behaviors

		Item 8a: Breast Self Exam Post-Test		Total
		No	Yes	
Item 8a: BSE* Monthly	No	10	50	60
Pre-Test	Yes	1	67	68
Total		11	117	128

(Table 1 Continues)

Table 1 Continued

Pretest and Posttest Comparisons of Intended Behaviors

		Item 8b: Clinical Breast Exam and Mammogram Post-Test		Total
		No	Yes	
Item 8b: CBE** and Mammogram yearly Pre-Test	No	35	33	68
	Yes	6	52	58
Total		41	85	126

		Item 8c: Yearly Pap Smear Post-Test		Total
		No	Yes	
Item 8c: Yearly Pap Smear Pre-Test	No	5	9	14
	Yes	6	106	112
Total		11	115	126

		Item 8d: Share Knowledge Post-Test		Total
		No	Yes	
Item 8a: BSE Monthly Pre-Test	No	13	45	58
	Yes	3	65	68
Total		16	110	126

		Item 8d: Share Knowledge Post-Test		Total
		No	Yes	
Item 8a: BSE Monthly Post-Test	No	8	4	12
	Yes	11	111	122
Total		19	115	134

		Item 8d: Share Knowledge Post-Test		Total
		No	Yes	
Item 8b: CBE and Mammogram Pre-Test	No	12	55	67
	Yes	4	54	58
Total		16	109	125

Key: *BSE = Breast self-examination

**CBE = Clinical breast examination

This examination illustrates the scores on the pretest and posttest and allows

visualization of where these changes occurred. The response to the added posttest item regarding intention to share knowledge is also integrated into this analysis. It is of interest, for example, to examine one's personal behavioral posttest intention with intention to share knowledge with others (see Table 1).

Research Question Three

To address research question three, “Does participation in an educational intervention program lead to increased knowledge of breast and cervical cancer risks and ways of promoting health?,” contingency tables were created (see Table 2). A comparison was made of behaviors women note they will perform and of what they will do to promote health to reduce breast and cervical cancer risks by sharing information with others.

Comparisons were made on pretest and posttest responses as to whether or not women were willing to perform certain health promoting behaviors and whether or not they were willing to share the information with another person. These results are illustrated in

Table 2.

Table 2

Pretest and Posttest Comparisons of Intentions to Promote Health

		Item 8d: Share Knowledge Post-Test		Total
		No	Yes	
Item 8b: CBE Mammogram	No	17	27	44
Post-Test	Yes	2	88	90
Total		19	115	134

(Table 2 Continues)

Table 2 Continued

Pretest and Posttest Comparisons of Intentions to Promote Health

		Item 8d: Share Knowledge Post-Test		Total
		No	Yes	
Item 8c: Yearly Pap Smear	No	5	9	14
Pre-Test	Yes	12	100	112
Total		17	109	126

		Item 8d: Share Knowledge Post-Test		Total
		No	Yes	
Item 8c: Yearly Pap Smear	No	9	4	13
Post-Test	Yes	10	111	121
Total		19	115	134

Key: *BSE = Breast self-examination
 **CBE = Clinical breast examination

Summary of Findings

Chapter IV has presented the findings of an investigation designed to determine the level of knowledge of risks and strategies to promote breast and cervical health awareness. The effect of the *DIEMM Cervical and Breast Health Awareness Participant Questionnaire* was utilized to measure the research question, "How much knowledge do women have prior to participation in an educational program?" The findings showed that the participants in this study did have an adequate amount of baseline knowledge about breast and cervical health awareness. No difference of knowledge was found between groups prior to the educational intervention.

The effects of the DIFMM Cervical and Breast Health Awareness Program *Pretest and Posttest* instrument measured research questions number 2 and 3 "What will women do to promote personal health to reduce breast and cervical cancer risks?" and "Does participation in an educational program lead to increased knowledge of breast and cervical cancer risks and ways to promoting health?" respectively. The findings of research question 2 indicated that the educational intervention was instrumental in increasing the level of knowledge through this type of framework. The participants were also willing to have yearly pap smears as part of their health promoting behaviors. The results of research question 3 indicated that increased knowledge can lead to increased health promoting behavior as well as becoming advocates of health promotion by sharing the information gained with others.

CHAPTER V

SUMMARY OF THE STUDY

Breast and cervical cancers constitute major health problems in the U.S. and continue to claim the lives of many women. This pretest and posttest comparison study sought to determine breast and cervical health awareness knowledge and risks and strategies employed by women before and after an educational intervention. The study was designed to answer the following three research questions: "How much knowledge do women have of risks for breast and cervical cancer before their participation in an educational program?", "What will women do to promote personal health to reduce breast and cervical cancer risks?", and "Does participation in an educational program lead to increased knowledge of breast and cervical cancer risks and ways to promoting health?" The conceptual framework guiding this study combined Pender's Health Promotion Model-Revised (HPM-R) and the Collaborative Theory (CT) to guide the implementation of the Do it for me, Mom® Program. A summary, discussion of the study's findings, conclusions, implications, and recommendations for further research follow.

Summary

The conceptual framework, and the interdynamics of interpersonal influences, health promoting behavior, collaboration, and partnering served as conduits for conveying knowledge to the participants of this study. These variables were influential and important to the provision of health awareness at nontraditional sites (day-care centers).

In general, women do not make time to practice health promotion for themselves. This is probably because they take care of everyone else but themselves. Dignan et al. (1996) reported that increases in knowledge and awareness due to health educational programs alone rarely result in changes in behavior. The present study demonstrates that increases in knowledge and awareness can lead to planned changes in behavior.

Discussion of the Findings

The results obtained from the present study support Strickland, Squeoch, and Chrisman's (1999) hypothesis that nonconventional methods of conveying knowledge increase the probability of achieving health-promoting behavior. These results represent progress toward increasing and producing health-promoting behaviors through nonconventional health education and health awareness programs. The DIFMM educational study was developed with attention focused mainly on providing educational interventions at day care centers. This approach, as guided by the study framework, is

viewed as instrumental to the achievement of the positive study outcomes.

Responses related to the first research question established the baseline knowledge of participants prior to participation of the study. A major significant outcome of the study as it relates to research question number three is that there is a demonstrable change in the plan of action of participants as described previously in Table 2. The results showed that participants were willing to perform BSE and yearly CBE examinations following the DIFMM program.

Furthermore, participants plan to become advocates for other women by recruiting and informing others not only about the importance of breast and cervical examinations but also assist them and actually participating in those examinations. The DIFMM is in agreement with Dignan (1999) showing that educational interventions can lead to increased knowledge and planned changes in behavior.

Conclusions and Implications

The results of this study provide conclusions and implications that will be helpful for future nursing practice in community settings. The conclusions show that there is existing baseline knowledge among women regarding breast and cervical cancer awareness. This baseline level of knowledge, however, is not sufficiently compelling to induce a change in behavior that will promote breast and cervical health awareness. The development and implication of the DIFMM program has served to further increase the

level of knowledge about breast and cervical cancer to a level such as to induce changes in behavior in participants. Participants in this program plan to participate in regular breast and cervical cancer examinations, which clearly supports that the DIFMM encouraged a favorable outcome among participants. It strongly suggests that educational intervention programs can and do help in planning behavior changes. Participants' plans include not only a change in their own lifestyle, but also to become advocates for others, is an encouraging outcome.

The major implications for nursing practice and health care delivery include:

1. A collaborative practice model is appropriate for supporting health promotion.
2. Customized teaching methods at the community level should be continued.
3. Greater personal involvement of health professionals collaborating with lay people provides a workable model.

Recommendations for Further Study

The recommendations for further study include the following:

1. Further testing of the relationships among and between the variables of interpersonal influences, health promotion behaviors, partnering, and collaboration supporting health promotion interventions should be developed and tested.
2. Randomized studies are recommended for generalizability application.

3. A longitudinal study is recommended for determining whether behavior changes occur following such an intervention.

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APPENDICES

TEXAS WOMAN'S
UNIVERSITY

DENTON / DALLAS / HOUSTON

HUMAN SUBJECTS
REVIEW COMMITTEE
P.O. Box 425619
Denton, TX 76204-5619
Phone: 940/898-3377
Fax: 940/898-3416

April 6, 1999

Ms. Gracie Salazar
6625 Wakefield Rd.
Fort Worth, TX 76180

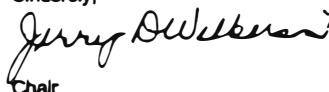
Dear Ms. Salazar:

Your study entitled "Breast and Cervical Cancer Risk Reduction: "Do it for me, Mom," an Educational Intervention Program" has been reviewed by a committee of the Human Subjects Review Committee and appears to meet our requirements in regard to protection of individuals' rights.

Be reminded that both the University and the Department of Health and Human Services (HHS) regulations typically require that agency approval letters and signatures indicating informed consent be obtained from all human subjects in your study. These consent forms and agency approval letters are to be filed with the Human Subjects Review Committee at the completion of the study. However, because you do not utilize a signed consent form for your study, the filing of signatures of subjects with the Human Subjects Review Committee is not required.

Your study was determined to be exempt from further TWU HSRC review. However, another review by the Committee is required if your project changes. If you have any questions, please feel free to call the Human Subjects Review Committee at the phone number listed above.

Sincerely,



Chair

Human Subjects Review Committee

cc. Graduate School
Dr. Betty Adams, College of Nursing
Dr. Carolyn Gunning, College of Nursing

A Comprehensive Public University Primarily for Women
An Equal Opportunity/Affirmative Action Employer

Appendix B

Form Number _____ Center Name _____ Code _____ Date _____

“Do It For Me, Mom”®
Cervical and Breast Health Awareness Program
Pre-Test

(Please indicate your answers with a check mark)

1. How important do you think it is for a woman to perform a breast self-exam every month?	<input type="checkbox"/> very important <input type="checkbox"/> important <input type="checkbox"/> somewhat important <input type="checkbox"/> not important <input type="checkbox"/> unsure
2. How important do you think it is for a woman to receive a Pap smear every year?	<input type="checkbox"/> very important <input type="checkbox"/> important <input type="checkbox"/> somewhat important <input type="checkbox"/> not important <input type="checkbox"/> unsure
3. The breast exam is composed of how many different steps?	<input type="checkbox"/> one <input type="checkbox"/> two <input type="checkbox"/> three <input type="checkbox"/> four <input type="checkbox"/> unsure
4. Most breast changes (lumps, discharges, etc) indicate the presence of cancer.	<input type="checkbox"/> True <input type="checkbox"/> False
5. If you are still having a period, when should you examine your breasts?	<input type="checkbox"/> 1 wk before your period <input type="checkbox"/> during your period <input type="checkbox"/> 1 wk after your period <input type="checkbox"/> the last day of each month
6. The number of sex partners a woman has had may increase her risk of cervical cancer.	<input type="checkbox"/> True <input type="checkbox"/> False
7. When should you have your first Pap smear?	<input type="checkbox"/> age 18 <input type="checkbox"/> age 21 <input type="checkbox"/> when you first have sex <input type="checkbox"/> When you begin your period.
8. Which of the following will you do? (check all that apply)	<input type="checkbox"/> perform BSE every month <input type="checkbox"/> have a yearly clinical breast exam and mammogram (if you are age 40 or older) <input type="checkbox"/> have a yearly Pap smear

Appendix C

Form Number _____ Center Name _____ Code _____ Date _____

“Do It For Me, Mom”® Cervical and Breast Health Awareness Program Post-Test

(Please indicate your answers with a check mark)

1. How important do you think it is for a woman to perform a breast self-exam every month?	<input type="checkbox"/> very important <input type="checkbox"/> important <input type="checkbox"/> somewhat important <input type="checkbox"/> not important <input type="checkbox"/> unsure
2. How important do you think it is for a woman to receive a Pap smear every year?	<input type="checkbox"/> very important <input type="checkbox"/> important <input type="checkbox"/> somewhat important <input type="checkbox"/> not important <input type="checkbox"/> unsure
3. The breast exam is composed of how many different steps?	<input type="checkbox"/> one <input type="checkbox"/> two <input type="checkbox"/> three <input type="checkbox"/> four <input type="checkbox"/> unsure
4. Most breast changes (lumps, discharges, etc) indicate the presence of cancer.	<input type="checkbox"/> True <input type="checkbox"/> False
5. If you are still having a period, when should you examine your breasts?	<input type="checkbox"/> 1 wk before your period <input type="checkbox"/> during your period <input type="checkbox"/> 1 wk after your period <input type="checkbox"/> the last day of each month
6. The number of sex partners a woman has had may increase her risk of cervical cancer.	<input type="checkbox"/> True <input type="checkbox"/> False
7. When should you have your first Pap smear?	<input type="checkbox"/> age 18 <input type="checkbox"/> age 21 <input type="checkbox"/> when you first have sex <input type="checkbox"/> when you begin your period.
8. Which of the following will you do? (check all that apply)	<input type="checkbox"/> perform BSE every month <input type="checkbox"/> have a yearly clinical breast exam and mammogram (if you are age 40 or older) <input type="checkbox"/> have a yearly Pap smear <input type="checkbox"/> share this cervical and breast health information with another person

Appendix D

Date _____ Center Name _____ Center Code _____

“DO IT OR ME, MOM”®
CERVICAL AND BREAST HEALTH AWARENESS PROGRAM
PARTICIPANT QUESTIONNAIRE

Date of Birth _____ Age _____ Zip Code _____ Gender _____ F _____
(Please check answers or fill in the blanks as indicated)

1. Did you complete a “Do It for Me, Mom” Female Parent/Guardian Survey between April & June, 1997 at this center or at “Stand for Healthy Children” event on June 1?

_____ yes _____ no _____ unsure
2. Have you ever had a mammogram?

_____ yes _____ no _____ unsure
3. If “yes”, how old were you when you had your first mammogram?

_____ yes _____ no _____ unsure
4. When was your last mammogram? _____
5. Have you ever had a Pap Smear? _____ yes _____ no _____ unsure
6. If “yes” how old were you when you had your first Pap smear? _____
7. When was your last Pap Smear? _____
8. Do you have health insurance that covers Pap Smears? __ yes __ no __ unsure
9. Do you have health insurance that covers mammogram? __ yes __ no __ unsure
10. What type of health insurance do you have? __ HMO __ PPO __ None __ Medicaid
____ Medicare Private Other
11. Have you attended a breast health education program before today? __ yes __ no
12. Have you attended a cervical health education program before today? __ yes __ no

Appendix E

Frequencies and Responses to Item 8 of Pretest and Posttest

Item	Best Response Options	Pretest Response	Posttest Response
1. How important do you think it is for a woman to perform breast self-exam every month?	Very Important	80%(125)	99%(133)
2. How important do you think it is for a woman to receive a Pap smear every year?	Very Important	87%(136)	96%(130)
3. The breast self-exam is composed of how many different steps?	Three	28%(42)	43%(56)
4. Most breast changes (I.e, lumps, discharges, etc.) indicate the presence of cancer	FALSE	69%(105)	81%(107)
5. If you are still having a period, when should you examine your breasts?	One week after your period	77%(105)	85%(113)
6. The number of sex partners a woman has had may increase her risk of cervical cancer?	TRUE	68%(98)	99%(132)
7. When should you have your first Pap smear?	Age 18	35%(53)	61%(83)
8. Which of the following will you do?			
a. Perform breast self-exam every month	Yes	53%(81)	90%(123)
b. Have a yearly clinical breast exam and mammogram (If age 40 or older for mammogram)	Yes	42%(69)	67%(90)
c. Have a yearly Pap smear	Yes	83%(135)	90%(121)
d. Share this cervical and health information with another person	Yes	N/A *	86%(115)

* N/A. Not applicable as sub item 8d was only asked in Posttest