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The effect of a miscarriage patient's age and parity status on nurses' emotional care

Reed, Karen S., Ph.D.

The University of North Carolina at Greensboro, 1988

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THE EFFECT OF A MISCARRIAGE PATIENT'S AGE AND PARITY STATUS ON NURSES' EMOTIONAL CARE

by

Karen S. Reed

A Dissertation Submitted to
the Faculty of the Graduate School at
The University of North Carolina at Greensboro
in Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

Greensboro
1988

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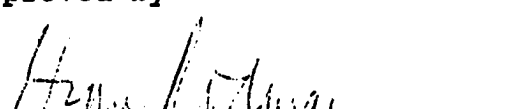

Dissertation Adviser

APPROVAL PAGE

This dissertation has been approved by the following committee of the Faculty of the Graduate School at The University of North Carolina at Greensboro

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REED, KAREN S., Ph. D. The Effect of a Miscarriage Patient's Age and Parity Status on Nurses' Emotional Care. (1988) Directed by Dr. Hyman Rodman. 108 pp.

Three hundred nine obstetrical nurses participated in an experimental study to investigate the effects of situational variables on nurses' emotional care. Two independent variables, woman's age and parity status, were tested. Three levels of woman's age and three levels of parity status were combined in 9 vignettes representing a typical, yet fictional clinical situation of miscarriage. The vignettes were randomly presented to the subjects for their consideration.

A 14-item questionnaire was developed to measure components of emotional care for miscarriage patients. Each item was measured on a 7-point rating scale. A factor analysis of the questionnaire revealed three interpretable factors which became the three dependent variables. The dependent variables were (a) the emotional seriousness of the miscarriage, (b) the priority of care, and (c) the need for emotional support.

Two principal hypotheses were tested for each of the three dependent variables. They were (a) that as the woman's age increase, she will receive higher levels of emotional care, and (b) that as the parity increases, the woman will receive lower levels of emotional care. The six hypotheses were tested using a 3 x 3 ANOVA procedure, followed by Tukey's Honestly Significant Difference multiple group comparison test. The findings clearly

showed that parity status had the hypothesized effect on emotional seriousness and priority of care, but not on the need for emotional support. Woman's age was not found to be a significant factor in determining emotional care.

A subsequent regression analysis employing the demographic data on the nurses as predictors showed that the age of the nurse helped predict scores on emotional seriousness; as nurse's age increased, the score on emotional seriousness increased. Higher educational status and an increase in the nurse's age predicted higher scores on the priority of care. An older nurse, a personal miscarriage history and a higher educational status predicted higher scores on the need for emotional support.

The findings of the study revealed that as a whole, nurses rated the emotional care of miscarriage patients as very important. While parity status was a statistically significant factor in explaining the nurses' responses, it was not a major predictor of the nurses' responses. The addition of demographic information on the nurses did little to add to the explanatory power of the model. Further study needs to be directed toward identifying other variables which affect the relationships between nurses and miscarriage patients.

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CHAPTER 1

INTRODUCTION

Nature of Study

Unexpected or involuntary pregnancy losses occur frequently to women during the reproductive years. Conservative predictions place the rate of miscarriage at around 20 percent of confirmed pregnancies (Hellman & Pritchard, 1971). Others (Oakley, 1986) place the rate of miscarriages closer to the fifty percent mark. There is also some evidence that the rates have increased in the past 20 years (Cohn, 1982; Knuppel, 1985).

Though the experience of miscarriage is a fairly common one to women of childbearing age, it is rarely viewed as potentially life-threatening by the health professionals who care for the women. Yet miscarriages can have emotional repercussions for the women who experience them. The literature suggests that for many women a miscarriage experience has a profound effect and that the effect can last for an extended period of time.

Another frequent finding in the literature has been that women who experience miscarriages perceive health care professionals--particularly physicians and nurses--to be cold and indifferent to their situation (Hutti, 1984;

Lovell, 1983). Reasons for or factors contributing to the patients' perceptions of the indifference of nurses and physicians have not as yet been identified. The purpose of this study is to discern whether there are certain situational and demographic factors that affect nurses' attitudes and behaviors when providing care to women who experience miscarriages.

Two variables have been identified through a review of the literature as the likeliest to have an influence on the nurses' attitudes and behaviors in a miscarriage situation. These are (a) the age of the woman experiencing the miscarriage and (b) her parity status, that is, the number of pregnancies she has had which have reached viability. The infertility literature identifies age as an important variable in a woman's ability to conceive or carry a pregnancy to full term (Menning, 1982). The obstetric literature indicates that the chances of a successful pregnancy decrease with each succeeding miscarriage (Hellman & Pritchard, 1971).

Because of the importance of these two variables on the outcome of a pregnancy, it is hypothesized that a woman's age and parity status would influence the nurses' emotional care of the woman who has miscarried. That is, nurses will give more emotional care to older women. Likewise, nurses will give more emotional care to women

who have not been successful in ever carrying a pregnancy to full term.

One of the most consistent findings in the pregnancy loss literature has been that the involuntary loss of any pregnancy, regardless of the woman's age or parity status, is perceived by the woman as an important event. Therefore, women's perceptions of health care professionals as cold and indifferent may be explained by differences in the nurses' and women's perceptions regarding the importance of a miscarriage.

Background for the Study

A breakdown of the occurrence of various types of involuntary pregnancy loss shows that one in 80 confirmed pregnancies ends in stillbirth, one in five ends in miscarriage, and one in 30 ends in ectopic pregnancy (Berezin, 1982). Oakley (1986) places the occurrences at an even higher rate.

> About three-quarters of all human conceptions do not result in the birth at full-term of a live baby. Most miscarriages take place before 10-12 weeks of pregnancy, and miscarriage stands at one end of the spectrum of pregnancy loss: world-wide, of the million or so women who become pregnant every day, around half of all pregnancies end in miscarriage or stillbirth, one in six are deliberately aborted, and one in ten of the infants born die within the first year of life (p. 123).

Women who experience a miscarriage may respond to the loss by grieving. The intensity of the grief is apparently not related to the length of time the woman was pregnant (Knapp & Peppers, 1979; Peppers & Knapp, 1980).

That is, a woman who miscarries at eight weeks' gestation will, on the average, grieve with the same intensity as a woman who miscarries at 20 weeks' gestation.

In the past, theorists from the psychoanalytic school have referred to the "empty womb" as a causative factor in women's psychological disorders. According to Erikson (1968), "clinical observation suggests that in female experience an `inner space' is at the center of despair even as it is the very center of potential fulfillment. Emptiness is the female form of perdition . . ." (p. 278). One might expect such a belief about the "empty womb" to be accompanied by professional concern about the consequences of a pregnancy loss. Historically, however, there was little written on the effects of miscarriage or any other type of pregnancy loss. Erikson (1968) comments on the lack of clinical investigation: "Clinically, this void is so obvious that generations of clinicians must have had a special reason for not focusing on it" (p.278). Erikson (1968) did not, however, hypothesize what the reasons for the lack of interest may have been.

It was not until the early 1970s that the subject of pregnancy loss was considered in the professional literature. Since then, the focus of most of the literature has been on the emotional impact of stillbirths and perinatal death--death which occurs during the first few days of life. Interest in the emotional impact of

miscarriages has just begun to surface in the literature.

It can be difficult to confront and cope with many types of loss. Miscarriages are perhaps even more difficult to handle, simply because the loss is rather ambiguous. Often there is no tangible evidence of the pregnancy to mourn, and in western cultures there are no rituals or societal customs that provide a socially acceptable means to grieve in the situtation of miscarriage.

Miscarriages may represent several types of loss. One is the loss of the fantasized child. Rubin (1967) and others have indicated that the beginnings of bonding occur between the mother and her fantasy child. It is during the pregnancy that most mothers and fathers begin to plan a future as a family around the addition of a child. A miscarriage prevents those plans from coming to fruition. A second loss concerns the self concept of the woman. Many women see their inability to stay pregnant as an inability to fulfill a basic requirement of womanhood--the bearing of offspring. The damage to the self concept may lead to the woman's questioning of her own self worth, especially if the pregnancy was planned. As Quirk (1979) states: "Giving birth to a normal child may reaffirm one's femininity or masculinity and one's image of a good self; a perinatal death may destroy this image" (p.15).

For researchers interested in the family, the study of how loss affects the family is a natural extension of the study of family development. The occurrence of some type of loss is one of the most consistent events that families experience regardless of their individual differences. Yet the study of families experiencing loss is a rather recent focus for family researchers. In a recent issue of the Journal of Family Issues devoted to death and the family, the editor stated: "Families are not only a special institution that nourishes life, they are living systems themselves. This journal issue addresses this sense of death as part of the living experience of families" (Wedemeyer, 1986, p. 235). Included in the issue was a research study on perinatal death that found that the experience of perinatal loss was still an emotional issue, even after an extended period of time (Rosenblatt & Burns, 1986).

Investigation into the factors that may increase or decrease the emotional impact of pregnancy loss on women is at an early stage of inquiry. Consequently, most research into the emotional impact of miscarriage or any other type of pregnancy loss is of a descriptive nature. Case studies and self reports of the women's experiences are the methods of choice for the research. Most of the literature describes the behaviors and feelings common to the experience. One aspect of the investigations has been

to identify behaviors that women found to be helpful in supporting them emotionally through the pregnancy loss. One factor consistently found to be helpful is the support of others (Estock & Lehman, 1983; Hutti, 1984; Stack, 1982). Emotionally supportive behaviors such as the use of touch have been identified, as well as the unhelpful, nonsupportive behaviors such as using cliches in communicating with the parents (Benfield, Leib, & Vollman, 1978; Estok & Lehman, 1983; Swanson-Kaufman, 1983; Murphy (1986) has identified several areas of family research targeted by both family and nurse researchers. One such area is the study of the family's interface with societal institutions and environments such as health care settings. Research on the effects of miscarriages fits into this category, for families with miscarriages interact with personnel in health care settings.

Information regarding how health professionals react to patients who have had miscarriages is missing. While the literature supports the idea that the women experiencing the miscarriage view the nurses as being cold and unfeeling, there has not been an attempt to find out how nurses react to the miscarriage patient. Since most women who have a miscarriage come into contact with nurses at some point during the experience, it is important to look at how nurses perceive the situation and the kind of emotional care they provide to miscarriage patients.

CHAPTER 2

REVIEW OF THE LITERATURE

Perinatal Loss

The first detailed studies of perinatal loss were not carried out until the late 1960s. Wolff, Nielson, and Schiller (1970) did a three year study that focused on the emotional reactions of women following the loss of a baby at birth. The sample for their study consisted of 50 women who were followed from 1 to 3 years after their baby's death. The method they used in their study of women's resolutions of the loss was an unstructured interview concerning the events surrounding the stillbirth. The researchers found that all of the women were depressed initially following the death. A majority of the women exhibited a grief reaction to the event. When asked for their perceptions of why the baby died, 14 of the women were unable to state any idea, 17 blamed themselves, 9 blamed others, and 10 blamed the death on fate. One of the most surprising findings of this study was that 22 of the women refused to discuss their attitudes about doctors and nurses. This is directly opposite to their willingness to freely discuss the events surrounding the death of the baby. Of the 28 women who were willing to discuss their relationships with the

nurses and doctors, 13 found their doctors to be warm and 10 felt they were cold. These same 28 women rated nurses in much the same manner; 10 women felt the nurses had been warm to them, and 11 felt the nurses had been cold. This finding was of some importance to the physicians who authored the article. They stated that "about half of the patients viewed the staff as cold and distant; the remainder felt the staff was warm and supporting. Accepting this point at face value, we are not as helpful in our approach as we may think" (p.76).

Also in 1970, Kennell, Slyter and Klaus reported on how women reacted to tactile contact with their babies who later died. This study has since been regarded as the classic study of the emotional impact of stillbirth. Prior to this study, the idea of any contact with an infant who might die was considered to be detrimental to the emotional health of the mother, because it would begin the bonding process with the infant. It was felt that if the bonding was prevented, the woman would not go through as much emotional trauma at the death of the infant. In this study, women who lost a baby through early perinatal death were divided into two groups--those who were allowed to touch their infant and those who were not. Interviews were held over a period of 3 to 22 weeks after the death of the infant to ascertain whether the tactile contact with the infant had any detrimental effects. The results

were that the contact did not seem to have any detrimental effects. In fact, all of the women seemed to have a grief reaction to the death of the infant. None of the variables posited to have an effect did have an effect. This included the length of the baby's life, the expectations concerning the chances to live, or the number of living children in the household.

The authors concluded that the process of bonding preceded tactile contact between mother and infant. Not only did physical contact between mother and infant not emotionally harm the mother, but in some instances it helped the woman resolve the grief process in a more adaptive manner.

Several years passed before the issue of the emotional response to stillbirth entered into the professional literature again. In 1977, Davidson reported on the emotional impact of stillbirth using a case study technique. Based on a 5 year study of 15 women, Davidson reported on the ways in which women coped with a stillbirth, and their points of vulnerability during the process. Davidson identified three different points of vulnerability for the women: the first was immediately at birth, the second when she reached out for emotional support, and a third when she compared her own feelings against the perceptions of those around her.

Nurses seemed to play an important role at the vulnerable points described. Seven years after the Kennell et al. (1970) report, Davidson found that an overwhelming majority of the obstetric nurses reported that they try to prevent mothers from seeing their baby--justifying it by saying premature babies don't look normal or might die in the mother's arms if they were to hold them. Nurses were also described as not being emotionally supportive to the women. Davidson quotes one of the mothers: "I would say 90 percent of the nurses all responded to me by saying, `You're young . . .you can try again.' When in reality, age didn't have anything to do with it" (p.271).

Cohen, Zilka, Middleton and O'Donohue (1977) further developed the ideas concerning the need for parents to view the body of a stillborn infant to help parents deal with the experience. Eighty mothers were interviewed during the hospital stay and 1 month later. The mothers had questions about what had become of the baby's body and expressed their need to see the infant. The results of this pilot study supported the premise that the viewing of the body helped the parents of a stillborn complete the mourning process with fewer problems. They state: "Curiously, rather than denying the event, we have found that mothers who have perinatal mortalities seek to affirm

that they have been pregnant, given birth and that the baby has died" (p.730).

In the previously cited literature, it had been assumed that a neonatal death was a severe stress on the family. Benfield, Leib and Vollman (1978) studied factors which may have related to the stress. This study was one of the first to use statistical confirmation rather that anecdotal information to measure the impact of perinatal mortality on the family. Fifty mother and father pairs completed a questionnaire that measured the expression of parents' grief following the death of their infant. Data were analyzed using t tests for matched samples. The findings included the information that the mean maternal grief score (13.4) significantly exceeded the paternal grief score (9.7). In addition, they found that "grief scores were not significantly related to birth weight, duration of life, extent of parent infant contact before or after referral, previous perinatal loss, parental age, or distance from the hospital" (p.174).

Rowe, Clyman, Green, Middelsen, Haight and Ataide (1978) found that the amount of understanding and the type of information concerning the perinatal death had an effect on the mother's satisfaction with the care given to her during the experience. The authors found a positive correlation between the degree of satisfaction and the mother's understanding. In addition, dissatisfaction

increased if they did not receive any follow up contact from their physician.

> In spite of the literature supporting physician follow up, only half of the mothers in our study were contacted again following the infant's death. . . . Physicians treated bereaved mothers by treating physical symptoms and prescribing sedatives liberally, but avoided discussing the baby's death in about half the cases (p. 169).

Helmrath and Steinitz (1978) examined the alterations in family relationships that occur at the death of an infant. Seven couples met their criteria for the study and were subsequently interviewed using a semi-structured technique. The interview encompassed six areas of information surrounding the death of the infant. No statistical analysis was used because of the descriptive nature of the data. Their findings, however, were consistent with those found by Benfield, Leib and Vollman (1977). Mothers and fathers differed in the acuity of grief. There were no differences in severity or length of mourning between couples with and without a living child. In addition, Helmrath and Steinitz (1978) reported that the couples felt extremely isolated. "Each couple expressed a need to talk about the events surrounding the baby's death and their feelings of grief" (p. 788).

Throughout the remaining part of the 1970s and into the early 1980s, the focus of research remained on the psychological effect of perinatal loss on the mothers and fathers. While most research still concentrated on the

death of a newborn or stillbirths, some studies began to include other types of pregnancy losses in their definitions of perinatal death. Horowitz (1978) examined the mourning reactions of adolescents to infant and fetal loss. Using a convenience sample of 40 inner city pregnant teens, she examined the relationship of past infant or fetal loss to the present pregnancy. The focus of the study was on the problems that the adolescents had with completing an adaptive mourning response. The sample was divided into those who had experienced an abortion (n = 20) and those who had experienced a miscarriage or ectopic pregnancy (n = 20). Horowitz only assessed 11 of the adolescents in each group for adaptive mourning responses, but the results were overwhelming. Of the 22 women assessed, only 5 were judged to have completed adaptive mourning. Even more startling was a finding concerning the time between pregnancies. Those who had experienced a miscarriage had conceived the present pregnancy at a mean of 5 months after the miscarriage; those with an abortion, 9 months. Of the 40 adolescents, 25 stated they purposefully became pregnant to replace the previous loss, and 13 others avoided using contraceptives even though they were aware of the consequences.

Peppers and Knapp (1980) researched the question as to whether different types of pregnancy loss have different effects. Sixty-five volunteers were asked to

respond to an instrument which measured grief reactions, similar to the one used by Kennell, Slyter, and Klaus (1970). The period of time since the loss ranged from 6 months to 36 years. Using ANOVA, the authors found no differences on the grief scores among women experiencing stillbirth, miscarriage, or neonate death.

Knapp and Peppers (1979) also described the relationship of doctors and patients in fetal/infant death situations. Interviews were done with 100 couples who had experienced some type of infant/fetal death. The content analysis of the interviews indicated that "well over half of the mothers in the study perceived the physicians as being insensitive, aloof, and unconcerned" (p.776).

In 1982, the study of miscarriages as a separate entity first appeared in the professional literature. In an editorial in a popular nursing journal, Stephany (1982) made this statement:

> The grief of an early miscarriage is not easily resolved. Unlike the patient who loses a child later in pregnancy, there is no concrete image of the child to say goodbye to. This patient has no formed baby to see or hold. She walks into the hospital pregnant and leaves nonpregnant, often only a few hours later (p.89).

Several of the articles written on the topic of miscarriage expressed differences of opinion in how to treat a woman who had a miscarriage. Wetzel (1982), a clinical nurse specialist, advocated that time be spent acknowledging the miscarriage and letting the mother

discuss the experience. The message given to emergency room physicians, however, was quite different. Dr. Roy Farrel was quoted as saying:

> Anything that will minimize the magnitude of the miscarriage for the woman should be exploited. . .I think the emergency physician should examine a woman right away to confirm that she is having an inevitable or incomplete miscarriage and then go ahead with the suction curettage. That way you rapidly stop the bleeding and minimize the physical and emotional discomfort and get the woman back to normal with a small, empty uterus (Treating Early Miscarriage, p.148).

Most of the clinical literature took the position that miscarriages should be viewed the same as any other type of perinatal loss. Articles written by clinicians discussed methods to be used to help a woman cope with perinatal loss. Estok and Lehman (1983) surveyed 24 parents who had lost their babies to find out what the parents considered to be supportive or damaging behaviors on the part of the caregivers. Behaviors found to be helpful included:

1. Informing the parent immediately of the condition of the baby.
2. Expressing feelings over baby's death with consoling words to parents.
3. Providing as much factual information surrounding the death as possible.
4. Describing the appearance of the baby.
5. Encouraging parents to see and hold the baby.

6. Touching parents affectionately and appropriately.

7. Encouraging parents to grieve openly.

8. Acknowledging the death to the parents.

9. Spending extra time with the parents to review the events surrounding the baby's death.

Behaviors found to be damaging included:

1. Avoiding discussion about the death.

2. Answering the hostility of the parents with anger.

3. Responding with cliches--"You can always have another baby".

4. Postponing the news about the death of the baby.

5. Lack of touching to express sympathy.

The last few years have shown that health care professionals have had an increased interest in the emotional aspects of the miscarriage experience. Again, the information written is of a clinical nature, and relies heavily on case studies and self report data.

Stack (1984) identified 11 factors unique to the emotional experience of miscarriage. He asserted that these underlying factors explained the difficulty in mourning a pregnancy loss. Included in the factors were the ambivalence a woman may have during early pregnancy and the difficulty in grieving the loss of one's self. He also mentioned the lack of tangible evidence that a loss

has occurred--there is no funeral, and the mother rarely sees what has been lost. Leon (1986) described similar factors in his investigation of the psychodynamics of perinatal loss.

Wall-Haas (1985) studied the responses of 9 women who had miscarried. The women completed a questionnaire concerning the experiences and behaviors at the time of the miscarriage. The data revealed that all of the women were affected to some degree by the miscarriage. While no data were gathered on the supportiveness of the nurses, the anecdotal remarks by the women described a mix of reactions to the nurses. Some women felt the nurses to be very supportive and others felt the nurses had not given them the support they needed. Wall-Haas attributes the discrepancy between patient and nurse perceptions to the nurses' perspective of a first trimester miscarriage as a "routine emergency".

Swanson-Kaufman (1986) looked at the relationship between the concept of caring and unexpected early pregnancy loss. Using taped interviews, she analyzed the experiences of 20 women who had experienced miscarriages prior to 16 weeks' gestation. Swanson-Kaufman identified five "categories of caring" which the women identified as being helpful. These included:

1. Knowing--defined as knowing the meaning of the loss.

2. Being with--facilitating the process of sharing the loss.

3. Enabling--facilitating the woman's ability to grieve.

4. Doing for--providing information, giving physical care, etc.

5. Maintaining belief--supporting the hope of conceiving again.

Hardin and Urbanus (1986) explored the emotional impact of miscarriages. Using a case study method, they described the psychological and emotional responses of a couple who had a second trimester miscarriage. They suggested helpful nursing behaviors, similar to those described by Estok and Lehman (1983) and Swanson-Kaufman (1986).

Madden (in press) used a structured interview process with 65 women concerning their thoughts on the reasons for the miscarriage. Using the women's responses, she developed two regression models to predict depression based on internal and external attributes. Of the external attributes, Madden found that women who felt their husbands were responsible for the miscarriage were more likely to be depressed. The internal attribution of feeling that they could do something to avoid another miscarriage also predicted higher depression scores among the subjects. Madden suggested that "self blame may be

adaptive only when a victim is confident that behavioral change will alter future outcomes" (p. 14).

In another study, Madden examined the role of emotional support following pregnancy loss. Using the same sample of 65 women, she measured the emotional and informational support provided by nurses and physicians. Thirty-two percent of her sample was satisfied with the emotional support they had received. "Of those, 67 percent said that good support came primarily from nurses" (p. 19). However, the women generally were not happy with the type or amount of information they received from the medical personnel. "Frequently they thought of questions to ask later, often about some action they'd taken which might have caused the miscarriage. Even if they had been told `it was nothing you did', they needed reconfirmation from their physicians. Thus encouraging questions during and after the miscarriage is helpful" (Madden, 1986, p. 21).

Nurses' Reactions to Miscarriage Patients

The emphasis on the emotional impact of health care situations has been an issue of increasing interest in the social psychological literature. DiMatteo (1979), Auerbach, Martelli, and Mercuri (1983) and others have written extensively on the interpersonal relationship between patients and physicians. Their research has consistently found that the interpersonal dimension of the

physician-patient relationship has a direct effect on the physical outcomes of the patients.

Nurses are taught that the care of their patients includes attention to the psychological and social needs of the individual. One popular nursing text emphasized the emotional needs of the miscarriage patient.

> Providing emotional support is an important task for nurses caring for women who have [spontaneously] aborted. . . The nurse can offer invaluable psychologic support to the woman and her family by encouraging them to talk about their feelings, by allowing them the privacy to grieve, and by sympathetically listening to their concerns about this pregnancy and future ones. (Ladewig, London & Olds, 1986, p.209).

Inherent in the guidelines given to the nurses regarding the importance of emotional support is the importance of providing emotional care to all women who have miscarried. Yet the articles in the literature on miscarriages point out that the emotional care given by nurses is perceived by patients as inconsistent. The purpose of this study is to begin to pinpoint the reasons for the women's feelings towards the emotional care received from nurses. Are nurses really as cold and indifferent as some women have reported over the past 18 years? Are there factors that influence the nurses' care in a miscarriage situation?

No articles could be found in the professional literature that examined the nurses' perceptions of women with miscarriages. It seemed appropriate to investigate the degree to which nurses were responding to the

emotional needs of their miscarriage patients. Wall-Haas (1985) and Oakley (1986) suggested that the women's perceptions of nurses' indifferent behavior may be based on the medical perception of a miscarriage as a simple, non-threatening physical condition. Therefore, the nurses may extrapolate from the non-serious physical situation to the emotional situation and treat women as if there should be little emotional impact from the experience.

A personal experience supported this premise. In 1987, my neighbor miscarried her first pregnancy of 12 weeks' gestation. When we reached the hospital, neither I nor her husband was permitted to accompany her into the treatment area of the emergency room. The nurse in charge stated that the doctor was with her. After the miscarriage had occurred, I asked my neighbor if someone had been with her during the miscarriage. She told me that she had been placed into the treatment room and left alone. This occurred even though the nurse who was responsible for her care had experienced a miscarriage six months previously.

Theoretical Rationale

This study can be placed within the context of situational theory. Which aspects of the miscarriage situation influence a nurse's perception of its seriousness and her behavior toward the patient? Studying the situations that affect behavior is termed

situationism. Mischel (1968) used the term to describe the process of utilizing social learning theory to explain the personality of individuals. Mischel (1968) suggested that different situations have different effects on the behavior of individuals, and that the interaction of the individual and the environment is crucial to the prediction of behaviors. Considerable controversy has been generated by the move to mesh social learning theories into the personality domain (Bowers, 1973). Yet, there is some evidence that the inclusion of situational variables in studies of behavior enhances the ability to explain human functioning (Moos, 1968). Mischel (1973) stated: "Studies have indicated that the sampled individual differences, situations, and response modes when considered separately tend to account for less variance than does their interaction" (p.255).

Statement of the Problem

Findings over the past 18 years support the premise that nurses may not fully understand the emotional needs of a miscarriage patient and therefore may not intervene. Aspects of the situation which may contribute to the nurses' lack of understanding and the absence of appropriate intervention need to be examined. Nurses are taught in their basic education that the emotional aspects of care are as important as the physical aspects of care. Because a miscarriage usually is not a physically

life-threatening situation requiring medical attention, the nurses may also view the emotional ramifications as not important. The area of investigation in this study is the effect of situational variables on nurses' judgments regarding the emotional care of a miscarriage patient.

Definition of Terms

Variables chosen as situational factors which potentially influence nurses' judgments concerning the emotional care of miscarriage patients are the variables of mother's age and parity status. Parity status is defined as the number of pregnancies which have resulted in a live birth. In combination with the gravida status, i.e., the number of times a woman has been pregnant, the number of pregnancy losses can be calculated. For example, if a woman has a gravida status of 2 and a parity status of 1 (written as 2,1), the woman has had one pregnancy end in a loss.

Three gravida/parity status designations will be used in this study. The gravida status is set at three. Three pregnancies with three losses (3,0) is the point at which a miscarriage history is acknowledged to be a medically serious situation, because of the concern that a woman will not be able to carry any pregnancy to full term.

The parity status of no living children in three pregnancies (3,0), one living child in three pregnancies (3,1), and two living children in three pregnancies (3,2)

are the three levels used to examine the effect on the nurses' judgments regarding the emotional care of the miscarriage patient.

Woman's age will be used as a situational variable to examine its impact on nurses' willingness to provide emotional care. Historically, the age of a woman has been of concern to physicians in terms of her ability to conceive and carry a child to full term. Though women are delaying child bearing more and more, there is still some belief that the older the woman, the more difficult it is to become pregnant and to maintain a pregnancy to full term. Not only may older women have more difficulty getting pregnant, but they also have less time available to try to become pregnant again should something happen to the pregnancy.

Three levels of mother's age will be used: 20, 29, and 38. These ages are chosen to represent the period of childbearing years for women. Age twenty represents the earlier years, age twenty-nine the middle years, and age thirty-eight the later years of childbearing. Ages below twenty were not included because of the relatively rare situation of a woman experiencing three pregnancies before the age of 20.

A concept known as emotional care is the dependent variable under investigation. Emotional care is a broad concept that may include several dimensions. Study of the

concept of caring has been limited to descriptive, qualitative research. Brown (1986) and others (Alvino, 1986; Wolf, 1986) incorporated both instrumental and expressive behaviors in their definitions of caring. Constructs included were understanding, acceptance, providing information, social support, emotional support and a variety of physical care services.

For this study, the concept of emotional care includes both expressive and instrumental behaviors concerning the emotional care of miscarriage patients as well as measures of comprehension concerning the emotional needs of miscarriage patients.

Hypotheses

The following hypotheses are tested in the study:

1) There is a statistically significant effect of the woman's age on nurses' judgments regarding miscarriage patients' needs for emotional care. It is expected that nurses will rate emotional care needs of older women higher than those of younger women.

2) There is a statistically significant effect of a woman's parity status on the nurses'judgments regarding the miscarriage patients' needs for emotional care. It is expected that nurses will rate emotional care needs of women with no living children higher than those of women who have at least one living child; nurses will rate the emotional care needs of women with multiple miscarriages

higher than those of women with a single miscarriage.

CHAPTER 3

METHODS OF PROCEDURE

The Research Design

The research design chosen for this study is an experimental, 3 x 3 factorial design which uses a vignette to combine the variables. The factorial design permits the researcher to control the independent variables and to examine the effect of various combinations of the independent variables on the dependent variables.

According to Rossi and Nock (1982), vignette analysis can be used in a factorial experimental design to explore the process of complex decision-making about which some information already exists. Vignette analysis is applicable to the study of any problem in which evaluations are to be made by persons concerning complicated issues. The objective of vignette analysis is to uncover the underlying collective preference schedules concerning some domain of objects or actions. Since the characteristics of the situation are controlled in the vignettes, vignette analysis reduces the multicollinearity present in real world situations. The vignettes are created with assigned values to each of the vignette characteristics. In vignette analysis, each level of the

variable under consideration is systematically paired with the levels of the other variables so that all combinations of values occur with equal frequency. In the real world, they would not occur with equal frequency. In this study, for example, the combination of a woman's age of 20 and a parity status of 3,0 (three pregnancies and no live births) occurred as frequently as the combination of a woman's age of 38 and a parity status of 3,0. In the real world, this would not be the case.

Factorial designs have frequently been used in the study of decision-making in professional situations. Misener (1986) used a factorial design with vignettes to determine how nurses define child maltreatment in their area of practice. The vignettes were used to determine the nurses' ability to judge the potential seriousness of child abuse incidents. Otten (1985) also used vignette analysis to ascertain the reactions of social service child care workers towards the potential seriousness of a situation of child neglect. Ketefian (1981) used vignettes with nurses to determine their level of moral decision-making abilities in ethical situations. The vignettes depicted situations frequently found in patient care that required the nurses to make ethical decisions.

The present study utilizes vignettes to create the experimental treatment. The vignettes describe a typical, yet fictional, case of miscarriage in which the

independent variables, age and parity status, are systematically combined to represent different miscarriage situations to the respondents. The vignettes describe a patient care situation that gives information concerning a woman who has experienced a miscarriage. Three levels each of the independent variables--age (20, 29, 38) and parity status (3,0, 3,1, 3,2)--are combined to create 9 different vignettes. The vignettes appear in the study in this form:

> One of your patients today is Susan Smith. Susan is a married (20, 29, 38) year old who has just miscarried a pregnancy of 10 weeks' gestation. Her physical condition is stable. On her history form you see that this is Susan's third pregnancy. She has (no living children, one living child, two living children). When you talk with Susan, she tells you this was a planned pregnancy.

The nurses were asked to respond to the situation as if it had occurred on a typical day in their clinical setting. They were instructed to answer in terms of how they thought they would respond if they were responsible for the patient's care. The point was made that there was no one correct answer. Their judgments regarding the vignettes were measured on a 7-point scale. They were instructed to read each question and circle the number which best described how they would respond to the patient

in the situation. The items were constructed so that item scores at the high end of the scale indicated a higher rating of the likelihood of emotional care in the vignette. A copy of the instrument is found in Appendix A.

The Research Instrument

The instrument consists of fourteen items that measure various aspects of emotional care. As described earlier, the purpose of many perinatal loss and miscarriage studies has been to identify the processes that occur when a perinatal death is experienced and to identify behaviors which may be helpful in dealing with the emotional aspect of the experience. It seemed appropriate, therefore, to utilize the issues identified by the women in earlier studies to construct the items in this instrument. Seven of the fourteen items in the instrument focus on the behaviors that women had expressed as being helpful.

Another aspect of the literature has been the emphasis placed on the importance of understanding the need to grieve in the situation of pregnancy loss. In study after study, the emphasis was placed on the need of the professionals to treat a pregnancy loss as a situation that may have emotional consequences. Therefore, five items were included that measure the nurse's perception

concerning the emotional consequences of the miscarriage experience.

Finally, it was decided to include two items which focus on the priority the nurses would give to emotional issues regarding a miscarriage situation. The nurses' tendency to separate the physical needs of the patient from the emotional needs often ends in the focus on one or the other aspect of care. The physical needs of a miscarriage patient are usually minimal if there are no complications. Therefore, the miscarriage patient may be seen as a simple case where minimal involvement by the nurse is needed, and the emotional aspects of the situation are ignored.

Development of the instrument.

The items to be used in the instrument were presented to several obstetrical nurses, all of whom had extensive expertise in clinical obstetrics and with miscarriage patients. The items were judged by them as having relevance in the care of a miscarriage patient.

The initial instrument was pre-tested with 18 obstetrical nurses from a local hospital in North Carolina. The nurses were asked to fill out the questionnaire as part of their daily tasks on the unit. The results of the pre-test showed the necessity of rewording three items, as there was little variability in the response pattern to the questions. Likewise, it was

decided to increase the scale from 6 points to 7 points to increase the differentiation of the responses. Therefore, the final instrument consisted of 14 items measured on a 7-point Likert type scale (See Appendix A).

Construction of the questionnaire.

The questionnaire was constructed according to a modified version of Dillman's Total Design Method. This design method is useful in guiding researchers to implement successful mail and telephone surveys. According to Dillman (1975), if the Total Design Method is used, "response rates of nearly 75 percent can be attained consistently in mail surveys of the general public and that even higher response rates are probable in surveys of more specialized populations, such as employees of a single organization or members of a profession (p. vii)."

Methods used to test reliability and validity.

Reliability tests.

The reliability of the instrument was checked through the use of a measure of the internal consistency of the instrument. A standardized Cronbach's alpha of .82 was obtained for internal consistency of the scale items. According to Shelley (1984), a Cronbach's alpha of .80 or above is acceptable as a reliability measure.

The results of the exploratory factor analysis were also used to measure the reliability of the instrument. Discussion of the assumptions underlying factor analysis

appear later in this chapter. The full results of the analysis are found in Chapter 4. Only the findings that relate to reliability and construct validity are discussed here.

According to Rossi, Wright and Anderson (1983), exploratory factor analysis can also be used to test the reliability of measurement. The mathematical model used in factor analysis is similar to the formula used for separating an item into true and error components. Rossi, Wright, and Anderson (1983) qualify the use of factor analysis for purposes of reliability measurement by adding: "The factor model assumes that each item may be differentially related to the underlying unobserved variable, whereas the true score model assumes that each item is linked to the underlying true score with a coefficient of unity" (p.90).

Zeller and Carmines (1980) add that the factor loadings of the items give an indication of the contribution of each item to a given factor. "Reliability coefficients based on factor analysis have the potential for overcoming the limitations associated with alpha reliability" (p.60). They suggest the use of two types of coefficients, theta and omega, for use with factor analysis. These two types of coefficients are to be interpreted similarly to Cronbach's alpha. Theta is to be used when (as in this case) there are multiple dimensions

underlying a set of items. A Theta coefficient of .93 was obtained for the instrument.

Construct validity.

Because the instrument was new and relatively untested, it was important to validate that the instrument did in fact measure the concept of emotional care. Such a concept is difficult to define operationally. There was a concern that the 14 items did not measure one concept, but measured a smaller set of constructs that were part of the concept of emotional care. It was decided to perform an exploratory factor analysis on the items as a preliminary assessment of the construct validity of the instrument. Tabachnick and Fidell (1983) state that factor analysis can be used in conjunction with test construction to measure the instrument's ability to measure several concepts.

Using a varimax rotation, the factor analysis retained four factors in the solution before the eigenvalue limit of 1 was reached. The emergence of four factors suggested that the instrument was not measuring only one concept. This brought into question whether scores from the instrument could be summated for a measure of emotional care.

Factor analysis should not be used as the only measure of construct validity because factor analysis does not distinguish between systematic measurement error in

the instrument and the presence of underlying constructs. Any systematic error found in the instrument is treated as if it is part of the underlying construct and is added into the factor loadings on the items. Therefore, additional testing of the construct validity is necessary. This was measured by a series of correlations. These measurements included correlation of the items to the full instrument (item - scale), correlation of the items to each of the 4 factors (item - subscale), correlation of the subscales (factors) to subscales, and correlation of the subscales to the total scale. Item to scale correlations measure how well each item measures the concept. Item to scale correlations should be greater than .30. Table 1 displays the correlations of the items to the instrument. The correlations of Q3 and Q13 do not meet Shelley's (1984) criterion for an acceptable item to scale correlation. The low item to scale correlations are an indication that these two questions may not measure the same concepts as the rest of the instrument.

Using the four factors found in the factor analysis, the correlations of the items to the four different factors was examined. This type of correlation demonstrates the ability of the items to measure the separate factors found in the factor analysis. The correlations of the items to the factor should be between

.50 - .65 (Schroeder, 1988). The results of the analysis are found in Table 2.

Table 1. Correlations of the Items to the Total Emotional Care Instrument

Item	Item-Total Correlation
Q1	.50
Q2	.46
Q3	.18
Q4	.46
Q5	.34
Q6	.38
Q7	.54
Q8	.52
Q9	.55
Q10	.52
Q11	.52
Q12	.47
Q13	.27
Q14	.52

Cronbach's Alpha = .81

Standardized Item Alpha = .82

Table 2. Correlations of Individual Items to the Four Factors

Factor	Item	Correlation	Standardized Item Alpha
	Q1	.67	
	Q2	.65	
1	Q4	.55	.81
	Q7	.60	
	Q8	.50	
	Q11	.58	
2	Q12	.53	.72
	Q14	.42	
	Q5	.40	
3	Q9	.48	.64
	Q10	.48	
4	Q3	.26	.41
	Q13	.26	

The correlations of the items on Factor 4 do not meet the criterion for a good fit of items to subscale. Factor 4 is composed of the two questions whose item correlations also did not meet the minimal criteria for inclusion into the instrument. Correlations of the subscales, or factors, with the total scale is another measure of construct validity. This correlation represents the ability of the

subscales as a whole to measure the concept under question. In this case, the correlations of the factors to the instrument indicate how well the factors measure dimensions of emotional care. The correlations of the factors to the total instrument were Factor 1 = .46; Factor 2 = .55; Factor 3 = .58; Factor 4 = .23. The subscale to scale correlations should be greater than .55 (Schroeder, 1988). Neither Factor 1 nor Factor 4 meet the minimum requirement.

Finally, a set of correlation coefficients were computed between the subscales (Factors) themselves. This correlation is also an indication of how well the factors, or subscales, measure the dimensions of emotional care. Table 3 shows the relationship between the Factors. Subscale to subscale relationships should be between .40 and .65 (Schroeder, 1988). Again, Factor 4 does not meet the criterion.

Table 3. Pearson Correlation Coefficients of the Factors

	Factor 1	Factor 2	Factor 3	Factor 4
Factor 1	1.00	.49	.44	.09
Factor 2	-----	1.00	.50	.20
Factor 3	-----	-----	1.00	.31
Factor 4	-----	-----	-----	1.00

The poor performance of Factor 4 in all of the construct validity measures gave reason to doubt that it

should be included as a measurement of emotional care. However, a final decision was delayed until the factor analysis was substantively interpreted.

Methods and Procedures of Data Collection

The sample.

All nurses who practice in the state of North Carolina must be registered through the State Board of Nursing. As part of the relicensing procedure, the State Board asks for information concerning the area of practice specialty of each nurse. Since the purpose of the research was to examine how typical nurses react to miscarriage patients, it was felt that the State Board would be the best place to obtain the sample. Other specialty organizations for obstetrical-gynecological nurses would have provided similar lists, but it was felt that nurses who join a specialty group might have a different viewpoint than those who choose not to join. The State Board of Nursing represented the most comprehensive listing of all obstetrical-gynecological nurses in the state.

A listing of over 3000 names and addresses of obstetrical-gynecological nurses was obtained through the State Board. Each of the names was numbered consecutively from 1 to 3000. A computer program was used to generate a random number list. The projected number for the sample had been placed at 400, to give adequate leeway for

attrition due to non-response. Since it was preferred to have equal numbers of subjects in each cell, the number of subjects was reduced to 396, the closest number to 400 that is divisible by nine. Thus, the computer program generated a total of 396 numbers which were matched to nine cell numbers that represented the nine different vignette combinations of age and parity status. The subjects whose names and addresses matched the random list numbers were selected to become part of the sample.

Data collection.

The data were collected using a mailed questionnaire which was sent to the home address of the subjects. A mailed questionnaire gave access to a relatively large sample of obstetrical-gynecological nurses who worked in a variety of settings. Mailing the questionnaire to the home instead of the nurse's place of employment provided some measure of control over the tendency of the subjects to compare answers with coworkers. Each of the nurses in the sample received one of the nine different vignettes that were generated by combining the three levels of woman's age and the three levels of parity status.

Dillman (1975) suggests that a sequence of mailings be used in order to optimally increase the response rate of mail surveys. The first mailing was sent to the total sample of 396 nurses who were licensed in the state of North Carolina (see Appendix B for a copy of the letter).

It was intended to limit the sample to those nurses who were currently working in the state. However, it became very clear almost immediately that this would not be possible. Some of the nurses who were licensed in the state did not actually practice in the state. Many had moved several times since their last North Carolina address, making it somewhat difficult to trace them.

Four days after the initial mailing, responses to the questionnaires began to return. Within the first week, 20% of the 396 questionnaires had been returned. At the end of the second week, a total of 154 questionnaires (39% of the original) had returned. A reminder post card was then sent to the nurses who had not yet responded (see Appendix B). After the post-card reminder, an additional 101 questionnaires (25%) were returned. A second mailing was then sent to those nurses who had still not responded. Included in the second mailing was a duplicate copy of the questionnaire that had been sent in the first mailing. The second mailing produced a return of 80 questionnaires, or an additional 20%. The cutoff date for accepting questionnaires was arbitrarily set at December 31. The total response rate for the miscarriage questionnaire was 335 or 84% with 310 or 78% of the responses usable. Fourteen of the questionnaires that were returned and not usable were from nurses who had left obstetrical nursing or were retired and felt that they could not respond to

the questionnaire. Two were returned with no explanation. The remaining eight questionnaires were completed incorrectly or were not completed at all.

As the questionnaires were returned, the data were entered into the computer. The questionnaire had been constructed so that the responses could be directly entered into a computer data set.

Methods Used to Analyze and Synthesize Data

The types of statistical procedures chosen to analyze the data were based on the questions asked in the hypotheses.

Factor analysis.

As described earlier, a factor analysis was run to test the construct validity of the instrument. The factor analysis results gave reason to believe the instrument measured more than one underlying dimension. Did this mean that the instrument did not measure emotional care, or were there several dimensions of emotional care being measured? Would the factors, once identified, make sense conceptually?

In order to run a factor analysis, certain assumptions concerning the data must be met. The three assumptions that are critical to an interpretable analysis are:

1) The sample size must be adequate. Comrey's (1973) guide indicates that a sample size of 300 is good.

2) R^2 correlations are adequate (at least some in excess of .30). An examination of the correlation matrix showed that most of the correlations were in excess of .30.

3) Multicollinearity and singularity are not present, measured by eigenvalues greater than 0 (Tabachnick & Fidell, 1983). All of the eigenvalues in the analysis were in excess of 0.

Two methods were used to verify that the factors would remain a stable entity and could be used as measures of emotional care. First, the results of the factor analysis from the full data set (n = 309) were compared to a previous preliminary factor analysis. The preliminary factor analysis was based on the responses from the first 140 questionnaires returned by the nurses. Tabachnick and Fidell (1983) state that when comparing two groups, the following questions should be asked:

1) Do both groups generate the same number of factors?

2) Do almost the same variables load on the different factors for the two groups?

3) Could you reasonably use the same labels to name the factors for both groups?

If the answers to all three questions are yes, then it is unnecessary to proceed to statistical comparisons.

All three questions posited by Tabachnick and Fidell (1983) were answered in the affirmative when the full factor analysis was compared with the preliminary one. The full data set was also randomly split into two equal parts and each part factor analyzed. This method yielded much the same information as had been found in the previous method.

A decision was made to interpret the factor analysis of the full data set and use the resulting factors as separate measures of emotional care. Therefore, the dependent variables in the study became the factors found in the factor analysis. The substantive interpretation of the factors is found in Chapter 4.

Analysis of Variance.

A two factor analysis of variance statistical procedure was chosen to test the hypothesis of main effects for each of the dependent measures in the study. Two factor analysis of variance (ANOVA) tests the differences among subjects' scores on one interval dependent variable when subjects are grouped on two or more nominal independent variables; in addition to the main effects, it also tests for the effect of interaction of the independent variables on the dependent variable (Godwin, 1987). In this case, the ANOVA tested whether there were differences among the mean scores of emotional care measures by the three levels of parity (0, 1, and 2)

and the three levels of age (20, 29, and 38), and also tested for interaction effects.

While the instrument data were measured on a Likert-type scale, the decision was made to treat the data as interval data. Although the scale is ordinal in nature, there is an underlying assumption to the use of Likert type scales that "there is a continuous underlying attitude dimension and that each item is monotonically related to that continuum. . . The exact form of the relationship is not important but a more favorable attitude should produce a higher expected score on any particular item" (Rossi, Wright, & Anderson, 1983, p.253). The alpha level for rejection of the null hypothesis, that there were no differences between the different groups, was set at .05. The nine groups in the study were defined by the two independent variables, age and parity status of mother.

ANOVA is particularly useful in factorial designs because of its ability to compare more than two groups at the same time. Isaac and Michael (1981) state "[ANOVA] answers the question is the variability between groups large enough in comparison to the variability within groups to justify the inference that the means of the populations from which the different groups were sampled are not all the same" (p. 182).

In order to use an ANOVA statistical procedure, it was important to ascertain how well the data met the assumptions for the technique. There are four principal assumptions underlying ANOVA:

1) The contributions to the sample variance are additive.

2) The observations are mutually independent.

3) The variances within sets must be approximately equal.

4) The population is normally distributed (Isaac & Michael, 1981).

The best strategy for meeting the assumptions is to use random sampling and a good scale. The sampling procedure, as described earlier, was random as were the assignments to the different vignettes. Though the distribution of the population of obstetrical-gynecological nurses was not known, the sample size (309) was large enough to support the assumption that the underlying population was distributed normally. Each individual received only one vignette, which met the assumption that the observations were mutually independent. Normal probability plots on each of the 14 items indicated that the response patterns for some of the items were skewed. This indicated there might be a problem with the assumption that the variances within each of the experimental groups would be approximately equal.

ANOVA is only a preliminary method of analysis in a factorial design. ANOVA answers the question, is there a difference between the different cells of the design. It does not indicate where the difference can be found among the groups. That is, the ANOVA may disclose that there is a difference in the effect of the levels of woman's age, but it will not distinguish whether the difference is between the woman's age of 20 and 29 or some other combination. An additional step, the use of individual tests of the groups' differences, must be used in order to isolate the position of the difference. Tukey's Honestly Significant Difference (HSD) test was used to determine the positions of the differences between the group means. The alpha level selected for such a difference was .05.

Regression Analysis: Prediction of Scores of Emotional Care

Finally, it was important to examine the effects of the demographic variables on the nurses' responses to the vignettes. Several questions concerning the demographic characteristics of the nurses were included in the questionnaire to see whether such information might be helpful in predicting the pattern of responses to the vignettes. The decision was made to use regression analysis to determine whether demographic information on the nurses enhanced the ability of parity status and age to predict the scores on the dimensions of emotional care.

Regression analysis is the method of choice when the question concerns the prediction of the relationship between one dependent variable and several independent variables. The variables may either be continuous or dichotomous (Tabachnick & Fidell, 1983).

Since the demographic data gathered were categorical in nature except for nurse's age, the categorical data were transformed into dichotomous variables in order to perform the regression procedure. Each of the demographic variables was originally divided into more than two categories, except for the data on whether the nurse had experienced a miscarriage. Thus, the variable of nurse's education, which originally had five categories, was collapsed into professional (baccalaureate or above) and technical (diploma or associate degree). The variable's name was also changed to DNursEd to signify the change in the status of the original variable. Employment was broken into fulltime or not fulltime (DEmploy), marital status was divided into married or not married (DMarital). Miscarriage history remained yes or no, and age was entered as a continuous variable. The independent variables, parity status and woman's age, were also included in the analysis to see if they would affect the scores on the dependent variables.

The main assumption to be met in order to use the regression technique is that the sample size must be large

enough. Tabachnick and Fidell (1983) recommend that an adequate sample size be four to five times the number of independent variables. The sample size in this case meets this assumption.

Stepwise regression was the method of choice to assess the relationship between the variables. Since the purpose of the analysis was to build a predictive model, the use of a stepwise procedure was appropriate as an exploratory method.

CHAPTER 4

RESULTS

Factor analysis

Using the full data (N = 309) set, a factor analysis was performed. Four factors which met the criterion of having an eigenvalue greater than one were retained in the solution. The four factors accounted for approximately 58% of the variance found in the original 14 items.

After varimax rotation, the four factors were well defined. A cutoff of a .40 factor loading was used for inclusion of an item in the interpretation of a factor. With the cutoff at .40, item #6 did not load on any factor. All of the other items were found to load on only one factor. Factor loadings ranged from .54 to .83, indicating a good to excellent relationship between the original items and the factor. A summary of the factor analysis is found in Table 4.

Factor 1 included five items which indicate the nurses' perceptions of the emotional impact of the miscarriage. The items included were the nurses' perceptions of 1) the impact of the woman's miscarriage on her lifestyle, 2) the emotional distress experienced by the woman, 3) the length of time needed for the woman's emotional recovery, 4) the woman's emotional reaction to

the miscarriage and 5) the amount of assistance the woman needs in anticipating what to say about the miscarriage. The five items found in Factor 1 accounted for 34% of the variance found in the solution, and 20% of the variance in the original 14 item instrument.

Factor 2 included three items that dealt with issues concerning time and priority of care the women with miscarriages would receive. It included the items of 1) the amount of time needed to provide the woman with care, 2) the priority her care would take, and 3) any contact the nurse would have with the patient after discharge. These three items of Factor 2 accounted for 27% of the solution variance and 16% of the variance in the original 14 items.

Factor 3 included three items that had as a common theme the willingness of the nurse to coordinate outside support for the patient. The items included 1) the willingness to have significant others stay with the patient, 2) the willingness to refer the patient to a support group, and 3) the amount of empathy the nurse had towards the patient. The loading of the empathy item on this factor may be an indication that the more empathetic the nurse is to the patient, the more likely she is to respond to the patient's need for emotional support. Factor 3 accounted for 20% of the solution variance and 12% of the original variance.

Only two items loaded on Factor 4. It was difficult to discern what the items measured, but both items seem to tap a dimension of the nurse's ease or comfort in talking with the miscarriage patient. The two items included were 1) the nurse's willingness to discuss the possibility of having children with the patient, and 2) how comfortable the nurse would be in talking with the patient. A listing of the questions and their placement on the factors is found in Appendix A.

The factor analysis identified four different dimensions in the emotional care for miscarriage patients. Each of the four factors accounted for between 34 and 19 percent of the variance in the solution. This seemed to suggest that all four factors were of relatively equal importance in the solution. That is, there was not one factor that was dominant in its ability to explain the variability in the solution.

Even though Factor 4 had acceptable loading values, there was some concern about the items which loaded on the factor. Previous construct validity measures had brought into question whether Factor 4 measured the same elements as found in the other three factors. Both Q3 and Q13 had low correlations within the full 14 item scale, and within the subscale. As a factor, the construct validity had also been in question, since Factor 4 did not meet the minimal coefficient criterion. Substantively,

Table 4. Factors in the Emotional Care of the Miscarriage Patient

Items	Fact. 1 Emotional	Fact. 2 Priority	Fact. 3 Support	Fact. 4 Comfort	Communalities
Lifestyle	.83				.70
EmDistress	.83				.74
EmRecover	.62				.44
EmReact	.68				.54
Assistance	.54				.46
TimeNeed		.81			.71
Priority		.78			.69
NContact		.61			.54
SigOthers			.80		.68
Referral			.54		.54
Empathy			.62		.59
MoreChild				.77	.62
NComfort				.67	.59
Proportion Solution Variance	.33	.28	.20	.19	
Original Var. Retained*	.20	.16	.11	.11	
Cumulative	.20	.36	.47	.58	8.16

*after varimax rotation

there was also a question concerning how well the questions measured the concept of emotional care. The comfort of the nurse in talking with the miscarriage patient may or may not relate to the willingness to provide emotional care. Question 13 had received a great deal of anecdotal remarks from the respondents. Most felt that it was inappropriate to talk with the woman concerning her ability to have more children. Based on this information, it was decided to eliminate Factor 4 from further analysis.

While there was evidence to suggest that the instrument measured a broad, underlying concept defined as emotional care, the factor analysis suggested that the three factors be treated as separate dependent variables. Thus the hypotheses for testing were the effect of parity status and age on emotional seriousness, priority of care, and need for emotional support.

Univariate Statistics

A series of frequency statistics were generated on the data obtained from the questionnaires. The frequency statistics showed that the nine different vignettes were relatively evenly represented in the return data. Cell size ranged from 38 to 29. Each vignette accounted for approximately 10 percent of the return data. The distribution of the vignettes is found in Table 5.

Table 5. Distribution of the Vignettes Within the Sample

Vignette	Frequency	Percent
1	36	11.6
2	32	10.3
3	38	12.3
4	38	12.3
5	35	11.3
6	34	11.0
7	33	10.6
8	35	11.3
9	29	9.4

Analysis of the subjects' responses showed that while the entire range of ratings were represented, most subjects rated the fourteen items at the high end of the 1 to 7 scale. On questions 2, 3, 5, 6, 9, and 10, approximately half of the ratings were between 6 and 7. All of the means were above the midpoint of the scale (1-7). Tables 6 through 8 highlight the univariate statistics for each of the three dependent variables.

Examination of the demographic data revealed that the majority of the respondents were female. Only one male responded to the questionnaire. In order to have a more homogeneous sample, it was decided to eliminate the one male respondent from further analysis. This reduced the

Table 6. Univariate Statistics for Factor 1 (Emotional Seriousness)

Vignette	N	Mean	Std. Dev.	Std. Error
1 Age = 20 Parity=0	35	5.63	.80	.14
2 Age = 20 Parity=1	37	5.23	.65	.11
3 Age = 20 Parity=2	33	5.06	1.07	.19
4 Age = 29 Parity=0	32	5.85	.66	.12
5 Age = 29 Parity=1	34	5.46	.85	.15
6 Age = 29 Parity=2	34	5.31	.77	.13
7 Age = 38 Parity=0	37	6.01	.63	.10
8 Age = 38 Parity=1	33	5.28	.92	.16
9 Age = 38 Parity=2	29	5.17	.88	.16

Table 7. Univariate Statistics for Factor 2 (Priority of Care)

Vignette	N	Mean	Std. Dev.	Std. Error
1 Age = 20 Parity=0	35	4.86	1.11	.19
2 Age = 20 Parity=1	38	4.30	.92	.15
3 Age = 20 Parity=2	33	4.18	1.05	.18
4 Age = 29 Parity=0	31	4.68	1.11	.20
5 Age = 29 Parity=1	34	4.75	.20	.21
6 Age = 29 Parity=2	35	4.66	1.05	.18
7 Age = 38 Parity=0	37	4.93	.92	.15
8 Age = 38 Parity=1	34	4.34	1.16	.20
9 Age = 38 Parity=2	29	4.57	1.31	.24

Table 8. Univariate Statistics for Factor 3 (Emotional Support)

Vignette	N	Mean	Std. Dev.	Std. Error
1 Age = 20 Parity=0	35	6.21	1.00	.17
2 Age = 20 Parity=1	38	6.10	.94	.15
3 Age = 20 Parity=2	33	5.96	1.13	.20
4 Age = 29 Parity=0	32	6.30	.83	.15
5 Age = 29 Parity=1	34	6.47	.74	.13
6 Age = 29 Parity=2	35	6.29	.76	.13
7 Age = 38 Parity=0	37	6.46	.57	.09
8 Age = 38 Parity=1	34	6.19	.83	.14
9 Age = 38 Parity=2	29	6.22	.80	.15

sample size to 309. All other demographic variables were retained in their original forms. Tables 9 through 14 show the breakdown of the demographic data on the subjects.

Table 9. Nurses' Marital Status

Status	Frequency	Percent
Never Married	24	7.8
Married	253	82.0
Separate/Div	26	8.5
Widowed	2	.7
Missing	4	

Table 10. Distribution of Nurses' Ages

Age Group	Frequency	Percent
< 25	8	1.6
25 - 30	71	23.1
31 - 35	79	25.7
36 - 40	62	20.2
41 - 45	37	12.2
46 - 50	22	7.2
51 - 55	16	5.3
56 - 60	8	2.7
> 60	3	.1
Missing	3	

Table 11. Nurses' Employment Status

Status	Frequency	Percent	Place	Frequency	Percent
Fulltime	218	71.2	Hospital	229	77.6
Part time	77	25.2	Home Health	2	.2
Unemployed	10	3.3	Dr.'s Ofc.	32	10.8
Retired	1	.3	Other	32	10.8
Missing	4		Missing	15	

Table 12. Nurses' Positions and Years of Experience

Position	Frequency	Percent	Yrs Exp	Frequency	Percent
Staff	174	59.4	< 5	90	29.7
Head/Charge	47	16.0	5 - 10	114	35.6
Clinical Spec.	12	4.1	11 - 15	54	17.8
Office	27	9.2	16 - 20	27	8.9
Other	33	11.3	> 20	18	5.9
Missing	17		Missing	7	

Table 13. Nurses' Education

Nurs. Degree	Freq.	Percent	Other Degree	Freq.	Percent
Diploma	99	32.8	No Other	275	89.8
Associate	104	34.4	Associate	9	2.9
Baccalaureate	87	28.8	Baccalaureate	14	4.6
Masters	12	4.0	Masters	7	2.3
			Doctorate	1	.3
Missing	8		Missing	4	

Table 14. Nurses' Miscarriage Experience

Miscarriage	Freq.	Percent	Number of Mis.	Freq.	Percent
no	221	72.5	0	221	--
yes	84	27.5	1	51	62.2
			2	26	31.7
			>2	5	6.0

In summary, a composite picture of the typical nurse who responded to the questionnaire is presented. The typical nurse was married and was between the age of 25 and 35. She had worked in obstetrics for less than 10 years. She was employed fulltime in hospital as a staff nurse. Her education consisted of an Associate Degree in Nursing or a Diploma (R.N. hospital program), and she had not furthered her education. She has not experienced a miscarriage herself.

Analysis of Variance

An analysis of variance procedure was utilized to test the effect of woman's age and parity status on the nurses' perception of emotional seriousness (Factor 1), the priority of care given (Factor 2), and the willingness to provide other support (Factor 3).

Main effects.

The ANOVA analysis findings will be described and interpreted for each of the dependent variables separately.

Factor 1. The Nurses' Perception of the Emotional Seriousness of the Miscarriage

The hypothesis regarding emotional seriousness predicted that (a) vignettes depicting an older woman would be seen as more serious and (b) as the parity level went down, the rating of emotional seriousness would rise. The results of the analysis of variance for emotional seriousness are summarized in Table 15. The main effect for woman's age was not significant ($p = .1130$). Across the groups, the age of the woman having the miscarriage did not significantly affect the nurse's ratings of the emotional seriousness of the situation.

Table 15. Reactions on Dependent Variable 1, Emotional Seriousness of the Miscarriage: Analysis of Variance

Source	SS	df	MS	F value	p
Main effects					
Woman's age	2.84	2	1.42	2.20	.113
Parity	25.70	2	12.85	19.88	.0001
Interaction	1.25	4	.31	.48	.748
Error	188.10	291	.65		
Total	218.41	299	.73		

$R^2 = .14$

Parity status was significant as a main effect ($p = .0001$). The parity status of the woman in the vignette significantly affected the nurses' ratings of the

emotional seriousness of the situation. Table 16 provides the mean emotional seriousness scores by parity status. The higher the score, the more emotionally serious was the nurses' rating of the miscarriage.

Table 16. Univariate Statistics of Parity Status for Emotional Seriousness

Parity	N	Mean	Std. Dev.	Std. Error
0	104	5.83	.71	.50
1	104	5.32	.81	.08
2	96	5.18	.91	.09

The means decreased as the parity status increased. That is, the mean scores of the emotional seriousness of the miscarriage decreased if the woman had one living child (5.32) and decreased again if the woman had two living children (5.18). The analysis of variance established that at least two of the group means on the parity status were significantly different. While it is apparent that the mean score for parity status 0 is significantly different than the mean for parity status 2, it was necessary to test this difference statistically. A Tukey's Honestly Significant Difference (HSD) test was used to make pair-wise comparisons for Parity Status means. The results are in Table 17.

Table 17. Parity Status Group Comparisons for Factor 1, Emotional Seriousness

Tukey's H.S.D. Procedure		
Parity Status Comparisons	Difference between Means	Significant at .05 level
0 - 1	.54	yes
0 - 2	.69	yes
1 - 2	.15	no

The results of the pair-wise comparison suggested that the presence of at least one living child made a difference in the response of the nurses regarding the emotional seriousness of a miscarriage. The number of living children (either one or two) was not a significant factor in the nurses' responses. The interaction of the two variables, woman's age and parity status, did not significantly affect the nurses' responses to the vignettes ($p = .75$).

Factor 2: The Priority of Care Nurses Give to Miscarriage Patients

Scores on this Factor measured the amount of time the nurses needed in order to take care of a woman experiencing a miscarriage. The hypothesis regarding priority of care predicted that (a) vignettes depicting an older woman would be seen as having a higher priority and (b) as the parity level went down, the priority of care rating would rise. The results of the analysis of variance for priority of care are summarized in Table 18.

Table 18. Reactions for Dependent Variable 2, Priority of Care: Analysis of Variance

Source	SS	df	MS	F value	p
Main effects					
Woman's age	2.90	2	1.45	1.24	.29
Parity	10.44	2	5.22	4.46	.01
Interaction	6.26	4	1.57	1.34	.26
Error	340.84	291	1.17		
Total	361.09	299	1.21		

$R^2 = .06$

Again, the findings concerning the importance of the woman's age were not statistically significant ($p = .29$). Across the groups, the woman's age did not significantly alter the nurses' responses to questions regarding the priority of care she would receive. The effect of the woman's parity status was statistically significant ($p = .01$). The parity status did affect the nurses' ratings of the priority of care.

The interaction of the two variables, woman's age and parity status, was not significant ($p = .26$). The interaction of woman's age and parity status did not affect the nurses' responses to the vignettes regarding the priority of care the woman received. Table 19 displays the mean priority of care scores by parity status. The higher the score, the higher priority the nurses gave to the situation. The mean scores of the

priority of care decreased if the woman had at least one living child (4.46) and remained approximately the same if she had two living children (4.47).

Table 19. Univariate Statistics of Parity Status on Priority of Care

Parity	N	Mean	Std. Dev.	Std. Error
0	103	4.83	1.04	.10
1	106	4.46	1.10	.11
2	97	4.47	1.14	.12

The analysis of variance established that at least two of the group means on the parity status were statistically significantly different.

The mean scores for the three levels of parity status revealed a difference between the scores on parity status 0 and the parity status of 1 and 2. Since the means scores for parity status 1 and 2 were nearly identical, it was expected that the difference between the groups were with parity status 0 and the other two groups. The Tukey's HSD test confirmed this. The results are in Table 20.

The results of the pair-wise comparison suggested that the presence of one or more living children made a difference in the response of the nurses regarding the priority of care a woman would receive. The number of living children (either one or two) did not affect the nurses' responses.

Table 20. Parity Status Group Comparisons for Factor 2, Priority of Care.

Tukey's H.S.D. Procedure		
Parity Status Comparisons	Difference between Means	Significant at .05 level
0 - 1	.43	yes
0 - 2	.37	yes
1 - 2	.05	no

Factor 3: The Nurses' Recognition of the Need for Support

The items in this factor measured the nurses recognition of the need for supportive services for the woman who experienced a miscarriage. The hypotheses related to this factor were that (a) the nurses would rate an older woman as needing more emotional support than a younger woman and (b) the nurses would rate a woman with a decreased parity status (fewer live births) as needing more emotional support. The results of the analysis of variance for emotional support are summarized in Table 21.

Neither of the main effects reached the stated significance level of .05, though woman's age approached significance with a p value of .0565. This tendency toward significance indicated that the nurses may have taken into account the woman's age in the vignette when rating the situation as to the need for emotional support.

In addition to the non-significance of the main

effects, the interaction effect of woman's age and parity status was not found to be statistically significant ($p = .61$).

Table 21. Reactions on Dependent Variable 3, Emotional Support: Analysis of Variance

Source	SS	df	MS	F value	p
Main effects					
Woman's age	4.29	2	2.15	2.90	.06
Parity	1.52	2	.76	1.03	.36
Interaction	1.98	4	.50	.67	.61
Error	215.15	291	.74		
Total	223.09	299	.75		
$R^2 = .04$					

A comparison of the group means for woman's age showed that the ratings by the nurses for the older woman (age group 29 and 38) were slightly higher than those for the younger woman (age group 20). The higher ratings were in the direction posited in the hypothesis. The group means for the three levels of woman's age in relation to Factor 3, the need for emotional support, are displayed in Table 22.

Table 22. Univariate Statistics of Woman's Age on Need for Emotional Support.

Age	N	Mean	Std. Dev.	Std. Error
20	106	6.09	1.02	.10
29	100	6.35	.77	.08
38	101	6.30	.74	.07

Regression Analysis: Prediction of Scores of Emotional Care

A stepwise regression procedure was used to determine the relationship of the dependent variables, Factor 1 (emotional seriousness), Factor 2 (priority of care), and Factor 3 (emotional support) to the independent variables of parity status and woman's age and the demographic variables of the nurse's education, employment, miscarriage history, age, and marital status. For the regression procedure, each of the independent variables was broken down into two categories. The two categories for each variable were based on the findings of the ANOVA and the subsequent group comparisons tests. That is, since the group differences regarding parity status were between the zero parity group and the one and two parity groups, parity was collapsed into two categories--no living children and at least one living child. The variable was renamed DParity to differentiate it from the original variable. Likewise, woman's age was

collapsed into the youngest age group (20) and the two older ages (29 and 38) and renamed DAge.

The results of the stepwise regression for Factor 1, emotional seriousness, are presented in Table 23. Only the nurse's education came into the equation with the woman's parity status.

The two variables explained 15% of the variance in the nurse's ratings of emotional seriousness. The results were significant at the .001 level. Parity continued to explain the most variability (10%) in the scores on emotional seriousness.

Table 23. Stepwise Regression for Factor 1

Variables	B	Std. B	F	p
DParity	-.535	-.299	28.46	.0001
DNurseEd	.376	.208	16.92	.0001
Overall Model			24.40	.0001

The results of the regression followed a similar pattern as the ANOVA. The beta weights demonstrated that as the parity status of the woman decreased, i.e., if she had no living children, the emotional seriousness score increased. The addition of the nurse's education, i.e., technical (Associate or Diploma) versus professional (Bachelor's or above) increased the amount of explained variability by 5%. As the level of the nurse's education

increased, the perception of emotional seriousness increased.

The results of the stepwise regression for Factor 2, priority of care, are presented in Table 24. In addition to the nurse's education, the age of the nurse came into the equation with parity status. However, the three variables explained only 4% of the variance in the nurses' ratings of priority of care.

The results were significant at the .005 level. Parity continued to explain the most variability (2.5%) in the scores on priority of care.

Table 24. Stepwise Regression for Factor 2

Variables	B	Std. B	F	p
DParity	-.360	-.155	6.52	.01
Age	.013	.104	3.49	.06
DNurseEd	.212	.090	3.02	.08
Overall Model			4.21	.01

Again, the results of the regression analysis follow a similar pattern as the results of the ANOVA. As the woman's parity status decreased, i.e., if she had no living children, the priority of care score increased. The addition of age and nurse's education did not greatly improve the predictive ability of the model. The addition of the nurse's age added less than 1% to the variability explained. The addition of the nurse's education

increased the amount of variability by 1%. Only parity status remained as a predictive measure of the priority of care ($p < .01$).

The results of the stepwise regression for Factor 3, emotional support, are presented in Table 25. Three variables entered the equation.

The three variables accounted for 4% of the variance in responses to Factor 3. Older nurses had higher scores on Factor 3. Likewise, nurses with higher levels of education had higher scores on Factor 3. Though not significant at the .05 level, the presence of a miscarriage in the nurse's history also increased the score on Factor 3. It is interesting to note that the presence or absence of a miscarriage only comes into importance in the recognition of the need for emotional support.

Table 25. Stepwise Regression for Factor 3

Variables	B	Std. B	F	p
Age	.013	.140	5.23	.02
DNurseEd	.222	.122	4.37	.04
DMiscarry	.187	.097	2.91	.09
Overall Model			3.76	.01

Summary of Analysis

The questionnaire that measured the concept emotional care was factor analyzed. The items on the questionnaire

loaded on four factors. One factor did not seem to substantively or statistically measure the underlying concept of emotional care. Therefore, it was eliminated from further analysis. The three factors were used as the dependent variables in the ANOVA procedure. Significant effects were found on two of the dependent variables. The parity status of the woman was found to have a statistically significant effect on the nurses' responses to the emotional seriousness of the miscarriage and to the priority of care the woman would receive. Woman's age did not produce statistical significance, but approached significance on one dependent variable: the need for emotional support.

A regression analysis procedure was performed to develop a predictive model for the scores on each of the three factors. Of the demographic variables, nurse's education and age added to the amount of variability explained on the scores of Factors 1 and 2. Factor 3 scores were best explained by the combination of nurse's age, education and a miscarriage in her history. The parity status of the woman continued to be the best predictor of the nurse's response on Factors 1 and 2, but did not enter into the equation of Factor 3.

CHAPTER 5

SUMMARY, DISCUSSION, AND CONCLUSIONS

Summary

Three hundred ninety six obstetrical nurses in North Carolina were randomly selected to participate in a experimental study that tested the influence of situational variables on nurses' emotional care. Three hundred nine usable responses were obtained. The variables selected for study were the miscarriage patient's age and parity status. The variables were selected after a careful review of the literature which indicated that women who experience miscarriage see the event as having an emotional impact on their lives. The intensity of the feelings are not affected by the age of the woman nor the number of live children she already has. It was suspected that nurses might view the situation of miscarriage differently than the women experiencing it.

Woman's age and parity status were combined to form nine different vignettes which were randomly presented to the subjects. After factor analysis, three measures of emotional care were used as the dependent variables. They were: emotional seriousness, priority of care, and emotional support. The data derived from these measures were used to test the hypotheses that (a) there is a direct relationship between the woman's age and the

direct relationship between the woman's age and the nurses' responses on each of the three dependent variables, and (b) there is an inverse relationship between the woman's parity status and the nurses' responses on each of the three dependent variables. Each hypothesis was tested separately on each dependent variable. A total of six hypotheses were tested. Analysis of variance (ANOVA) was used to test the hypotheses that the means of the experimental groups on the dependent variables were equal.

The results of the analysis demonstrated that the parity status of the woman was a significant variable in the nurses' perceptions of emotional seriousness and priority of care. The woman's age did not affect the nurses' perceptions of emotional seriousness and priority of care. Woman's age nearly reached statistical significance in its effect on the nurses' perceptions of the need for emotional support. Parity status did not affect the nurses' perceptions of the need for emotional support. There were no statistically significant interactions between the woman's age and parity status on the dependent variables. The statistically significant results were in the direction posited by the hypotheses. Nurses perceived situations where the woman had experienced no live births as more serious than if she had at least one living child. Likewise, nurses gave higher

priority to women who had no live births than to women with at least one living child. Older mothers were seen as needing more emotional support than younger mothers.

A subsequent regression analysis of each of the dependent variables on the demographic data revealed that the age of the nurse and her educational status influenced her responses on emotional seriousness and on priority of care. Older, more educated nurses tended to rate the emotional seriousness higher and give the women higher priority of care. Nurses' responses on emotional support were best explained by a combination of age, education, and the presence of a personal experience of miscarriage. Nurses who were older, more educated and who had themselves a history of miscarriage had higher ratings on the need for emotional support.

Discussion of Results

Sample size.

The 84% response rate of the subjects was higher than expected. Reasons for the high return rate are not really known, but there are a few aspects which may have contributed to the response rate. Following the Dillman Total Design Method as completely as possible probably increased the return rate. Dillman (1978) estimates that the average return rate when using his method is about 74%. He also feels that the use of a specialized group as a sample also increases the response rate. The length of

the questionnaire was also an important factor in increasing the returns. The original questionnaire was five pages in length. By photographically reducing the text so that two pages became one, the questionnaire was reduced to two and a half pages with an extra half page for comments. The questionnaire took approximately 5 to 10 minutes to complete. Respondents were also encouraged to add comments to illustrate their answers if they wished. Many of the returned questionnaires had comments written on all three pages; some nurses even utilized the backs of the pages for writing comments.

Another reason for the high response rate could have been the use of the School of Nursing's letterhead for the cover letter. This legitimized the research by indicating that it was from someone in the profession who was interested in the nurse's point of view. Also, the questionnaire was sent to the respondent's home address instead of the work place. While this was done to ensure that nurses could not collaborate on their responses, it also prevented the questionnaires from being lost in the shuffle at work.

A summary of the research was offered to the respondents if they requested it. One hundred fifteen of the respondents, or 37%, did so. This could be construed as a fairly high interest in the topic of miscarriage.

Since the researcher is not known to them--obstetrics is not her field of expertise--it may be assumed that the interest is in the topic itself. Most of the respondents were not baccalaureate prepared, ruling out the idea that they may have been alumni of the UNCG School of Nursing and thus acquainted with the researcher.

The subjects.

The demographics of the respondents in this study are in line with the national statistics on nurses. Nationally, 60% of the nurses who work are from Associate or Diploma programs. This is in comparison to 67% in the sample. On the national level, 73% percent are employed fulltime--71% of the sample was employed fulltime. Nationally, 68% of the nurses are working in hospitals, and of those 68%, 67% are staff nurses. This compares to the sample's 78% hospital nurses and 59% staff nurses. The median age of the nurse nationally is 39, with the majority of the nurses being 25 to 40 years of age (Facts About Nursing, 1987). The median age of the nurse in the sample was 35. The nurses in the study had a higher than average rate of miscarriages. Nationally, it is about 20%. The rate of miscarriage for the sample was 27%.

A personal history of miscarriage was expected to be a strong predictor of the scores on the dependent variables. However, it did not affect nurses' scores as expected. Reasons for the lack of impact are not known. A

personal history of miscarriage did slightly influence nurses' scores on emotional support. This may be due to the recognition of the importance of emotional support from others by nurses who have experienced a miscarriage themselves.

The instrument.

One of the greatest drawbacks to being able to generalize the findings of the study is the fact that this is a new instrument. It was first developed as a measure of one concept--emotional care. Factor analysis did not support the idea of one concept, but of three. The three constructs--emotional seriousness, priority of care, and emotional support--represent both expressive and instrumental behaviors. It is not known exactly how these constructs may relate to the larger theoretical concept of caring.

Further testing and refining of the instrument is necessary. Three of the items on the instrument had to be eliminated because of their poor fit with the rest of the items. Item 6, "How willing would you be to help Ms. Smith obtain the information available from medical records about her miscarriage", failed to meet the .40 factor loading cutoff for inclusion into any factor. This item was to measure the nurses' willingness to provide information to the miscarriage patient. The literature has identified informational support (Madden, 1986) as a

need of the miscarriage patient that is poorly met by health professionals. It may be that information is not part of emotional care, or it may be that the item itself was not constructed well enough to tap this construct. This item generated a number of responses from nurses who felt that obtaining information was not their responsibility but was the responsibility of the physician.

Item 3, "How comfortable would you be talking to Ms. Smith about her experience", performed poorly in the construct validity tests. The item was to measure the nurses' willingness to spend time with the miscarriage patient and her willingness to listen to the patient. Spending time with the patient and willingness to listen were thought to be linked with the nurses' ease of working with a miscarriage situation, the idea being that if a nurse is comfortable with the miscarriage situation, she would spend more time with her. Perhaps the item was too conceptually removed from the construct that it was supposed to measure.

Item 13, "How willing would you be to discuss with Ms. Smith the possibility of her having more children?" was to measure the nurses' willingness to answer the patient's questions concerning future pregnancies. This item generated a great deal of comment from the nurses--much of it contradictory. Some of the most frequent

comments generated by the question had to do with the reluctance of the nurses to discuss future pregnancies because of the fear of minimizing the miscarriage experience. As one nurse stated, "I would want to give her time to work through the grieving process before discussing future pregnancies". Others felt it was not their job to discuss future pregnancies, but that of the physician.

The dependent variables.

Mean scores for the items on the instrument were higher than anticipated. Overall, the nurses responded as if the care of the miscarriage patient was important. One reason for the high scores on the variables may have been due to the fact that this was a paper and pencil test of the situation. The nurses may have responded in a more ideal fashion than if they were in a real clinical situation.

Even though the overall response ratings were high, the scores across the dependent variables did vary. Mean scores on Factor 2, Priority of Care, were lower than those of the other two variables. The relatively low scores (given the range of responses by the nurses) gives an idea of the low priority awarded to the miscarriage patient in a clinical setting. Mean scores on Factor 2 remained in the 4.0 range, while mean scores on Factor 1 (Emotional Seriousness) were in the 5.0 range and mean

scores on Factor 3 (Emotional Support) were in the 6.0 range. Item 14, "How necessary do you think it is for you to keep in contact with Ms. Smith after she goes home" was a question that loaded on Factor 2, Priority of Care. This item had the lowest mean score of all 14 items (3.81). It also generated the most anecdotal remarks from the nurses.

Most nurses expressed strong feelings that it was not their responsibility to remain in contact with the woman after she went home. A typical response is characterized by one nurse's comments: "I feel like with the number of people a nurse sees daily that it is impossible to try to keep in touch with patients after discharge, unless the circumstances are extreme". The low scores on item 14 served to lower the Factor 2 mean scores.

Mean scores on emotional support were the highest of all three factors. The emotional support items dealt with the need for others to provide emotional support, not the nurse. This may be an indication of the nurses' awareness of the need for support, and their opinion that the support could be best given by someone other than themselves. Item 5, "How much would you encourage Ms. Smith's significant others to stay with her if she asks for them?" had the highest mean score of all 14 items (6.61). Several nurses made the comment that their

willingness to provide emotional support depended upon whether or not the woman had other sources of support.

Factor 3, emotional support, was not affected by the miscarriage patient's parity status. It is not known why there was no effect. One possibility may have been the limited number of items (3) that measured the construct of emotional support. With only three items, it may have been that the domain was not adequately sampled and therefore was not able to measure the construct. Woman's age approached statistical significance, but again the number of items may have been a factor in not reaching significance.

The independent variables.

Woman's age was not a predictor of emotional seriousness or priority of care, and only approached significance as a predictor of emotional support. The reasons for the inability of woman's age to predict may have to do with the national trend of older women having children. The National Center for Health Statistics reported a 60% increase in the birth rate for women ages 30 to 34 from 1975 to 1980. Nurses may have not responded to the age of the woman as a significant factor in giving emotional care simply because the nurses see a much greater range of ages in their patients than they did in the past.

Parity status was a predictor of the nurses' responses to the vignettes. A contributing factor to the strong showing of the parity status may have been that in the vignette, the woman had experienced three pregnancies. As stated previously, the situation of three pregnancies and no live births is considered to be an indication that the woman may have an infertility problem. Because the medical definition of three pregnancies and no live births is considered serious, the nurses may have had an increased awareness of the emotional seriousness of the situation. Further study of the effect of parity status needs to be done using a different pregnancy status. For instance, nurses may react quite differently to a first pregnancy that ends in miscarriage.

Conclusions

The results of this study generated more questions than answers. The results do not support the idea that nurses are cold and indifferent to miscarriage patients. Nurses' ratings of the emotional care for the miscarriage patients were high, regardless of parity status or age of the woman. Parity status became a factor only in delineating which women needed more emotional care than others. These findings do little to shed light on the reason why women have consistently perceived nurses and physicians to be cold and indifferent. The women's perceptions of nurses cannot be explained by the results

of this study. Reasons for the discrepancies between the results found here and the previous literature on miscarriage are not known, but may be based on other sources rather than the nurses' perceptions of the women.

It may be that nurses do in fact regard women with miscarriage as needing less care. The findings of this study are based on a self report measure. The wish of the nurses to be seen as providing high quality emotional care may have influenced their responses. Nurses may have responded to the questionnaire as they thought they "should" have rather than how they normally react. Secondly, the situation presented in the vignettes was hypothetical. No mention was made of the number of other patients the nurses would be caring for, or what the situation at work might be. A more detailed description of the work load may have influenced the nurses to rate their ability to give emotional care differently.

It may also be that the nurses do in fact give a great deal of emotional care to women with miscarriages, and the women themselves may not be able to perceive the situation clearly. In a crisis situations such as miscarriage, persons tend to have difficulty in perceiving their surroundings. The effect of the emotional upheaval surrounding the miscarriage may result in the women feeling depressed or anxious. Both states can lead to

misperceptions of the environment and others within the environment.

Very little research is available on the professional nurse/client relationship. What research is available usually focuses on what the client perceives to be good care, or how they would like to be treated. Variables which affect the interpersonal relationship have yet to be systematically studied. It may be that variables within the interpersonal relationship between a miscarriage patient and the nurse have a great effect on the perceptions of the patient. Such things as personality variables (of both patient and nurse), the reactions of the patient towards the miscarriage, the duration of the relationship may affect the perceptions of the patient.

There also may be other situational issues that affect nurses' responses. Anecdotal comments from the nurses seems to support this idea. Some nurses felt that in order to respond to the patient, they needed to know more about the presence of other support, the verbal responses of the patient, and the patient's coping mechanisms. In response to the vignette where the patient had two living children, several nurses wanted to know the ages of the children. Likewise, in the vignette where the patient had no living children, the nurses were interested in whether the pregnancies had been voluntarily or

involuntarily terminated. Other possible situational variables include the gestational age of the fetus, the race of the mother, the marital status of the mother, and whether previous pregnancies were planned or unplanned.

Another area to explore is the responses of a different group of nurses, those who work in the emergency room. Quite often, the patient who miscarries is not admitted to the hospital but is treated in the emergency room and released directly from there. The nurses in the emergency room may be the only contact the patient will have with nursing staff. The responses of emergency room nurses to a miscarriage patient have not been studied.

Still another question that can be posited is how do nurses react to miscarriage patients in an actual, clinical situation? This study utilized a self report paper and pencil method to measure nurses' responses. The question then becomes, How do the nurses' responses in a fictional situation compare with their responses in an actual situation? Utilizing clinical observations of the nurses in an actual miscarriage situation would clarify the findings of this study.

Based on the results of this study, nurses do perceive the emotional aspects of the miscarriage experience as important. Both the measures of emotional seriousness and emotional support had high ratings from the nurses. However, nurses' cognitive awareness of the

importance of emotional care may not be translated into actual behaviors.

Nurses' lower priority ratings for the miscarriage patient may be one of the primary reasons for the woman to view the nurse as cold and indifferent. Nurses consistently stated that priority care in an obstetrical unit is given to the woman who is in active labor or in physical danger. Those who are physically stable are often not given as much time as they need simply because of the demands of the work place. Several of the nurses recognized the problem of giving the miscarriage patient the emotional care she needs. One nurse put it very succinctly.

> In [labor and delivery] a pregnant mother with a viable fetus will always have priority over a stable miscarriage mother. On a busy day emotional support is the <u>first</u> thing dropped by the wayside. I am reduced to running from patient to patient evaluating Mom and fetus, praying the fetal monitor does not show the baby has been in distress while I was with someone else. Forgotten are perinatal death, support groups, her feelings on future babies, or contact after discharge. That's life!

Given the time demands on the nurses, perhaps it is not fair to assume that staff nurses should provide emotional care to miscarriage patients. It may be that others of the health profession are better able to handle the emotional needs of the miscarriage patient. Several of the nurses did in fact mention that other health professionals were to help with this aspect of care for

the patient. The professionals mentioned included social workers, pastoral care, and clinical nurse specialists.

Because a miscarriage patient is admitted into a hospital for a short period of time, if at all, there needs to be some method established of providing follow-up care. None of the nurses reported that their institutions had an established protocol for the care of miscarriage patients. In fact, quite a few nurses felt that it was not part of their job to contact the miscarriage patient after she went home (Q 14). Common responses were "[I] separate my home and work life", "This is not the role of a staff nurse in the hospital", and "Although I feel it is very important [to stay in touch], I must admit this isn't done at our institution".

A type of protocol, similar to those used in other types of perinatal death, may be in order. If the staff nurses who are in contact with the patients are not able or willing to provide the emotional care needed, then there needs to be some mechanism whereby a referral is made to others who can provide the emotional care. An effort should be made to provide the woman with information concerning who is available for support before she leaves the health care setting.

This study was a beginning step in the systematic study of one dimension of patient care--emotional care. While there are significant limitations to the

generalizability of the findings, the results do provide a point at which to begin further research into the factors that affect the emotional care of miscarriage patients. Such research may then be generalized to other types of patients.

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APPENDIX A

RESEARCH INSTRUMENT

AND PLACEMENT OF ITEMS ON THE FOUR FACTORS

In answering the questions, please respond to the situation as if it is occurring on a typical day in your clinical setting. Your answers to the questions should reflect how you think you would respond if you were responsible for the patient's care. There is no one correct response to the questions. Read each question carefully, and circle the number which best describes how you would respond to the patient in this specific situation.

> One of your patients today is Susan Smith. Susan is a married 20 year old who has just miscarried a pregnancy of 10 weeks' gestation. Her physical condition is stable. On her history form you see that this is Susan's third pregnancy. She has no living children. When you talk with Susan, she tells you this was a planned pregnancy.

On a scale of 1 to 7, with 1 being a very low score and 7 being a very high score, circle the number which best describes your answer to the following questions.

Q-1. How do you think this miscarriage will affect Ms. Smith's lifestyle in the next few weeks?

1	2	3	4	5	6	7
WON'T AFFECT IT AT ALL						WILL BE VERY DISRUPTIVE

Q-2. How much emotional distress do you think Ms. Smith will experience as a result of the miscarriage?

1	2	3	4	5	6	7
VERY LITTLE						A GREAT DEAL

Q-3. How comfortable would you be talking to Ms. Smith about her experience?

1	2	3	4	5	6	7
VERY UNCOMFORTABLE						VERY COMFORTABLE

Q-4. How long do you think it will take Ms. Smith to recover from her experience emotionally?

1	2	3	4	5	6	7
NOT LONG AT ALL						A VERY LONG TIME

Q-5. How much would you encourage Ms. Smith's significant others to stay with her if she asks for them?

1	2	3	4	5	6	7
NOT MUCH						QUITE A BIT

Q-6. How willing would you be to help Ms. Smith obtain the information available from medical records about her miscarriage?

1	2	3	4	5	6	7
NOT WILLING						VERY WILLING

Q-7. How much of an emotional reaction do you expect Ms. Smith to have in this situation?

1	2	3	4	5	6	7
WILL HAVE LITTLE REACTION						WILL REACT INTENSELY

Q-8. How much assistance do you think Ms. Smith may need in anticipating what to say to family and friends?

1	2	3	4	5	6	7
VERY LITTLE						QUITE A BIT

Q-9. How willing would you be to take the initiative to refer Ms. Smith to a perinatal death support group?

1	2	3	4	5	6	7
NOT WILLING						VERY WILLING

Q-10. How empathetic do you think you could be to Ms. Smith in this situation?

1	2	3	4	5	6	7
NOT AT ALL EMPATHETIC						VERY EMPATHETIC

Q-11. Compared to the other patients you are taking care of, how much time will you need to care for Ms. Smith?

1	2	3	4	5	6	7
MUCH LESS						MUCH MORE

Q-12. What priority would Ms. Smith's nursing care receive, compared to the other patients you ordinarily have?

1	2	3	4	5	6	7
LOW PRIORITY						TOP PRIORITY

Q-13. How willing would you be to discuss with Ms. Smith the possibility of her having more children?

1	2	3	4	5	6	7
NOT WILLING						VERY WILLING

Q-14. How necessary do you think it is for you to keep in contact with Ms. Smith after she goes home?

1	2	3	4	5	6	7
SEE NO NEED TO STAY IN TOUCH						VERY IMPORTANT TO STAY IN TOUCH

PLEASE MAKE ANY ADDITIONAL COMMENTS YOU MAY HAVE CONCERNING THIS SITUATION IN THE SPACE BELOW.

Deborah King is a married 23 year old whose pregnancy of ten weeks' gestation has been confirmed by her physician. This is Deborah's first pregnancy. Last night, she came into the ER and miscarried. In your conversation with her today, she tells you that this was a planned pregnancy.

On a scale of 1 to 7, with 1 being a very low score and 7 being a very high score, circle the number which best describes your answer to the following questions.

Q-15. How much would you encourage Ms. King's significant others to stay with her if she asks for them?

1	2	3	4	5	6	7
NOT MUCH						QUITE A BIT

Q-16. How do you think this miscarriage will affect Ms. King's lifestyle in the next few weeks?

1	2	3	4	5	6	7
WON'T AFFECT IT AT ALL						WILL BE VERY DISRUPTIVE

Q-17. How willing would you be to take the initiative to refer Ms. King to a perinatal death support group?

1	2	3	4	5	6	7
NOT WILLING						VERY WILLING

Q-18. How long do you think it will take Ms. King to recover from her experience emotionally?

1	2	3	4	5	6	7
NOT LONG AT ALL						A VERY LONG TIME

Q-19. How much assistance do you think Ms. King may need in anticipating what to say to family and friends?

1	2	3	4	5	6	7
VERY LITTLE						QUITE A BIT

Q-20. How comfortable would you be talking to Ms. King about her experience?

1	2	3	4	5	6	7
VERY UNCOMFORTABLE						VERY COMFORTABLE

Q-21. How willing would you be to help Ms. King obtain the information available from medical records about her miscarriage?

1	2	3	4	5	6	7
NOT WILLING						VERY WILLING

Q-22. How empathetic do you think you could be to Ms. King in this situation?

1	2	3	4	5	6	7
NOT AT ALL						VERY EMPATHETIC

Q-23. How much emotional distress do you think the Ms. Smith will experience as a result of the miscarriage?

1	2	3	4	5	6	7
VERY LITTLE						A GREAT DEAL

Q-24. Compared to the other patients you are taking care of, how much time will you need to care for Ms. King?

1	2	3	4	5	6	7
MUCH LESS						MUCH MORE

Q-25. How much of an emotional reaction do you expect Ms. King to have in this situation?

1	2	3	4	5	6	7
WILL HAVE LITTLE REACTION						WILL REACT INTENSELY

Q-26. What priority would Ms. King's nursing care receive, compared to the other patients you ordinarily have?

1	2	3	4	5	6	7
LOW PRIORITY						TOP PRIORITY

Q-27. How necessary do you think it is for you to keep in contact with Ms. King after she goes home?

1	2	3	4	5	6	7
SEE NO NEED TO STAY IN TOUCH						VERY IMPORTANT TO STAY IN TOUCH

Q-28. How willing would you be to discuss with Ms. King the possibility of her having more children?

1	2	3	4	5	6	7
NOT WILLING						VERY WILLING

PLEASE MAKE ANY ADDITIONAL COMMENTS YOU MAY HAVE CONCERNING THIS SITUATION IN THE SPACE BELOW.

Finally, please answer these questions about yourself.

Q-29. Your sex (circle the number of your answer)

1 FEMALE
2 MALE

Q-30. Your present marital status (circle number)

1 NEVER MARRIED
2 MARRIED
3 DIVORCED OR SEPARATED
4 WIDOWED

Q-31. Your present age: _____ YEARS

Q-32. Are you presently: (circle number)

1 EMPLOYED FULL TIME
2 EMPLOYED PART TIME
3 UNEMPLOYED (skip questions 33 & 34)
4 RETIRED (skip questions 33 & 34)

Q-33. Place of employment: (circle number)

1 HOSPITAL
2 HOME HEALTH AGENCY
3 PHYSICIAN'S OFFICE
4 OTHER (please describe)_____

Q-34. Your present position title: _____

Q-35. How many years of experience in ob-gyn nursing do you have? ___

Q-36. What is the highest level of education that you have completed? (circle the appropriate number in each column)

In Nursing	Other Than Nursing
1 DIPLOMA	1 NO OTHER DEGREE
2 ASSOCIATE DEGREE	2 ASSOCIATE DEGREE
3 BACCALAUREATE	3 BACCALAUREATE
4 MASTERS	4 MASTERS
5 DOCTORATE	5 DOCTORATE

Q-37. How many children do you have and what are their ages? (if none, write "0")

Q-38. Have you ever experienced a miscarriage? (circle number)

1 NO
2 YES
IF YES, HOW MANY? _____

Thank you for taking the time to answer this questionnaire. If you have additional comments you would like to make, please feel free to add them below or on the other side of this page.

Questionnaire Items and Their Placement

on the Four Factors

Factor 1

a) How much emotional distress do you think Ms. Smith will experience as a result of the miscarriage? (EmDistress)

b) How do you think this miscarriage will affect Ms. Smith's lifestyle in the next few weeks? (Lifestyle)

c) How long do you think it will take Ms. Smith to recover from her experience emotionally? (EmRecover)

d) How much of an emotional reaction do you expect Ms. Smith to have in this situation? (EmReact)

e) How much assistance do you think Ms. Smith may need in anticipating what to say to family and friends? (Assistance)

Factor 2

a) Compared to the other patients you are taking care of, how much time will you need to care for Ms. Smith? (TimeNeed)

b) What priority would Ms. Smith's nursing care receive, compared to the other patients you ordinarily have? (Priority)

c) How necessary do you think it is for you to keep in contact with Ms. Smith after she goes home? (NContact)

Factor 3

a) How much would you encourage Ms. Smith's significant others to stay with her if she asked for them? (SigOthers)

b) How willing would you be to take the initiative to refer Ms. Smith to a perinatal death support group? (Referral)

c) How empathetic do you think you could be to Ms. Smith in this situation? (Empathy)

Factor 4

a) How comfortable would you be talking to Ms. Smith about her experience?

b) How willing would you be to discuss with Ms. Smith the possibility of her having more children? (MoreChild)

APPENDIX B

LETTERS TO RESPONDENTS

THE UNIVERSITY OF NORTH CAROLINA
AT GREENSBORO

School of Nursing

October 28, 1987

Dear Colleague:

The art of patient care is a topic of interest for most nurses. It is particularly important in light of the hectic pace found in today's health care facilities. Nurses are expected to provide the best care available to their patients and be able to do it in less than the ideal conditions they were taught about in school. Learning how to provide the best possible care to all patients given the very real limitations of time, staffing and resources is a challenge. Learning how nurses make their decisions when providing care to their patients is critical information for the profession if we are committed to the idea of improving patient care in the "real" world.

You are being asked to provide some information concerning how you make decisions. You were selected as part of a random sample of ob-gyn nurses licensed in the State of North Carolina. In order that the results will truly represent the thinking of the ob-gyn nurses in North Carolina, it is important that the questionnaire be fully completed and returned. If you find you are not able to do so, for whatever reason, please indicate this and return the questionnaire in the envelope provided. This will ensure that no additional effort will be made to contact you to participate in the study.

The questionnaire has 3 sections and takes approximately 20 minutes to complete. All responses will be treated confidentially. The questionnaire has an ID number for mailing purposes only; this is so we may check your name off the mailing list when your questionnaire is returned. Your name will never be placed on the questionnaire. Any reporting of the information received will be in group form only — no individual responses will be identified.

The results of this research will be published after the study is completed. You may receive a summary of results by writing "copy of results requested" on the back of the return envelope and printing your name and address below it. Please do not put this information on the questionnaire itself.

By taking the time to respond to this questionnaire, you are providing needed information about decisions that are made daily in the practice of nursing. Your willingness to provide this information can help us learn how to make better professional decisions. Thank you for your assistance.

Sincerely,

Karen Reed

Karen Reed, M.N., R.N.
Project Director

GREENSBORO, NORTH CAROLINA / 27412-5001

Postcard Reminder to the Respondents

November 16, 1987

About ten days ago a questionnaire seeking your responses concerning nursing judgments was mailed to you. Your name was drawn from a random sample of ob-gyn nurses in North Carolina.

If you have not already completed and returned the questionnaire to me, please do so today. Because it has been sent to only a small, but representative, sample of ob-gyn nurses it is extremely important that yours also be included in the study if the results are to accurately represent nurses' judgments.

If by some chance you did not receive the questionnaire, or it got misplaced, please call me (919-334-5010) and I will get another one in the mail to you immediately.

Sincerely,

Karen Reed

Karen Reed, MN, RN
Project Director

THE UNIVERSITY OF NORTH CAROLINA
AT GREENSBORO

School of Nursing

December 2, 1987

Dear Colleague:

About a month ago I wrote to you seeking your input on how nurses make professional judgments. As of today, I have not yet received your questionnaire.

This study has been undertaken because of the belief that things which affect nurses' decisions in the clinical area may affect the kind of care nurses are able to provide to their patients.

I am writing to you again because of the significance each questionnaire has to the usefulness of this study. Your name was drawn through a sampling process in which every ob-gyn nurse licensed in the state of North Carolina had an equal chance of being selected. In order for the results of this study to be truly representative of the ob-gyn nurses, it is essential that each person in the sample return their questionnaire.

In the event that your questionnaire has been misplaced, a replacement is enclosed. Your cooperation is greatly appreciated.

Cordially,

Karen Reed, M.N., R.N.
Project Director