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The stress of fathers during the labor and delivery of their partner

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Brown, DeAnn Robinson, M.S.N.

University of Nevada, Las Vegas, 1993

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**300 N. Zeeb Rd.
Ann Arbor, MI 48106**

**The Stress of Fathers During the Labor and
Delivery of Their Partner**

by

DeAnn Robinson Brown R.N., B.S.N.

**A thesis submitted in partial fulfillment
of the requirements for the degree of**

Master of Science

in


Nursing


**Department of Nursing
University Of Nevada, Las Vegas
May, 1993**

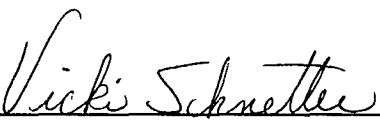
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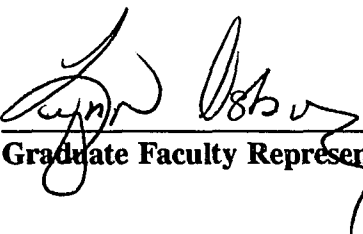
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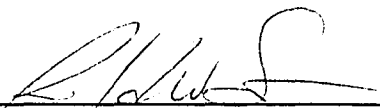
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ABSTRACT

This descriptive, retrospective survey employed a questionnaire to determine what factors cause stress to expectant fathers during their partner's labor and delivery and how that stress is exhibited. Fathers of healthy newborns at two hospitals in Utah accompanying their partner in labor and delivery were asked to complete the questionnaire within 36 hours after the birth of baby. The survey elicited responses from three different time periods during the labor and delivery: 1) the beginning of labor, 2) labor from the time of admission to the hospital and when labor reached its peak until delivery, and 3) during the delivery of the infant. The research data was analyzed utilizing four statistical techniques: 1) descriptive methods, 2) chi square, 3) Kendalls tau, and 4) MANOVA. The results of the study suggest that there were several stressors experienced by fathers during their partners' labor and delivery. The stress reaches its peak during the second time period studied, peak labor, and dropped during the delivery of the infant. The study also identified actions that help fathers to cope and addressed relationships between stress experienced during labor and delivery and several demographic and other influencing variables.

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Chapter I

INTRODUCTION

Of all the phenomena that human beings experience, birth is perhaps the most awe inspiring and emotional episode of one's lifetime. It is indeed a family affair and the reproductive health of the entire family is the cornerstone upon which a healthy society rests.

It wasn't until the participant childbirth movement beginning in the 1960's that fathers were allowed to share in the birthing experience in modern times. However, it was with reluctance that they were allowed in the delivery room and their primary purpose was to be a support to the laboring mother. Many studies have addressed the role of the father as a labor coach and his importance to the entire process yet little research has been done to identify how fathers can be helped through this stressful time. Health care providers tend to focus on the mother and baby and ignore the needs of the father. During labor and delivery many fathers feel out of their realm and manifest their stress in many ways from withdrawal to anger. It seems that as long as the father has unmet needs and is experiencing stress it is impossible for the family unit to be healthy. He cannot be as great a support to his partner which may cause her to have increased stress and possible complications. The father's attachment to his new baby may

also be blocked unless he can feel comfortable in this particular setting. As healthcare providers, it seems that if we were truly family centered we would recognize that fathers have needs and make an attempt to meet them along with the needs of the mothers. Once these needs are met then the family unit will become stronger and the benefits realized.

Problem Statement

The literature does not identify what factors, if any, contribute to the stress of fathers during their partner's labor and delivery. By identifying these factors, it is possible nursing interventions can be developed to reduce them. The result of this action should in turn promote wellness to the individual and the family cared for by the nurse.

Purpose of the Study

The purpose of this study was to identify specific stressors experienced by the father during his partner's labor and delivery. Significant relationships between stressors experienced during the labor and delivery period and demographic and other potentially influencing variables were also explored.

Significance of the Study

By knowing men's perceptions of their experience during this time, nurses can better assist these fathers to cope with and adapt to their new role. Labor can potentially be a long process and there may be variables identified as stress causers or reducers during early labor that can be utilized to help make late labor easier for both participants. The findings of the study will potentially have significance for the prenatal education of couples, the clinical management of labor and delivery, and the education of obstetric nurses.

Chapter II

REVIEW OF LITERATURE AND CONCEPTUAL FRAMEWORK

Overview of Relevant Research

Benefits of Father Participation

Studies of expectant fathers prior to the 1970's focused primarily on abnormal responses of men to their partner's pregnancy. As the benefits of allowing men into labor and delivery were recognized, studies started to emerge about those benefits. Henneborn and Cogan (1975), set out to determine the effects of the husband's participation on reported pain and probability of medication during labor and birth. A sample of 49 births was drawn from 317 women who were students of a childbirth education group. Two groups of couples, all enrolled in childbirth education classes were studied. Thirty-eight fathers who attended labor and birth were compared with a second group of 11 fathers who attended only the first stage of labor. Questionnaires were completed by the wives after a class in the third trimester; by the wife, husband, and teacher four weeks later before delivery and after the birth; and by the physician after the birth. No report of reliability or validity was made. In the total participation group the women reported less pain, received less medication, and reported more positive feelings about the total birth experience than the partial participation group. The

results of the investigation also suggest that among couples who attend prenatal classes certain motivational factors are important in predicting husband participation in the second stage of labor.

Many studies have reported reduction of the emotional impact of stress when information is provided about a distressing experience prior to that experience. This is supported by Cronenwett and Newmark (1974), in their study of 152 fathers who expressed their feelings about their infants and wives during labor and birth. The fathers completed a 28 item questionnaire shortly after their child's birth. Three comparison groups of fathers were studied: prepared attenders, unprepared attenders, and nonattenders. Fathers who had attended childbirth preparation classes rated their overall experience more positively than fathers who did not attend classes. They also found that even without preparation, attendance at the birth was a positive influence on the couples' relationship as they have an increased closeness. This study did indicate that birth attendance has no major effect on fathers' perception of their infants.

It has been shown by Peterson, Mehl, and Leiderman (1979) through a one year longitudinal study conducted on 46 families, that a more positive birth experience leads to greater levels of father attachment with their child. Interviews were performed on three groups of fathers, those

whose partner had natural childbirth in the hospital, those whose partner had anesthesia during childbirth, and those whose partner had a home delivery. The groups consisted of 21, 12 and 13 families respectively. Interviews were given during the sixth to eighth month of pregnancy, after delivery, and when the baby was one week, one month, and two, four, and six months of age. The father was also observed during labor and delivery. From the interview and observations, a rating scale for father attachment was developed. The interview team consisted of two individuals, one who knew what kind of delivery the family had and one who did not. The uninformed individual recorded the parent's behavior during the interview while the other conducted the interview. Data were coded from recorded tapes of the interviews by three persons. Initially, all coders coded the same tape until reliability among coders reached 85%, every tenth tape was subsequently coded by two individuals in order to maintain a reliability of 85%. The most significant predictor of attachment was the emotional quality of the birth experience. It was also shown in this study that longer labors and the home environment were associated with greater attachment.

Bowen and Miller (1980) were also interested in paternal attachment behaviors. Their pilot study explored the degree to which certain experiences enhance father-infant attachment. The variables studied were preparenthood

classes, fathers presence at delivery, and infant state. Forty eight fathers were observed in the mother's room 12 to 72 hours after delivery with interrater reliability being assessed by having two observers code the same father-infant behavior simultaneously. The second observer was given advance information about the purpose of the study and descriptions of the behavior to be observed. The behaviors were discussed during a training session to clarify any questions. Seven of the 48 fathers were also observed by both observers to estimate interrater reliability. The paternal behavior observation sheet had 180 possible points of rater comparison. The actual error for each observation was obtained by determining the difference between the scores on each pair of observations. The actual error divided by the total possible error resulted in the percentage of agreement. Reliability for infant state was assessed in the same manner. Using this method, it was determined that the reliability between two observers of paternal attachment was 94.5%, and the reliability for infant state was 97.1%. The results showed that fathers present at delivery showed more social attachment, sleeping infants elicited less attachment behavior, and attendance at preparenthood classes had no effect on attachment behavior. The authors did acknowledge that their study had some limitations, one being that they didn't account for the

effects of maternal anesthesia on infant state and the other that there wasn't random assignment to groups.

Palkovitz (1985) evaluated paternal attachment and birth attendance in a review of the research concerning father's birth attendance. The goals of this review were to address the difference in findings reported, to consider whether methodological differences can account for the divergent findings, and to formulate guidelines for future research in this area. Three research categories were reviewed: early contact or contact in the delivery or recovery room and the first few hours after birth, extended contact or the opportunities for additional contact during the remainder of the hospital stay, and birth attendance. Studies examined were from the 1970's through the early 1980's. There were a number of questionnaire and observational studies reviewed (number not identified). Palkovitz felt that no conclusive statements could be made. The studies reporting positive findings for birth attendance versus nonattending fathers slightly outnumbered the studies finding no group differences, yet the studies with positive findings were generally less sound methodologically. There was some evidence that suggested that birth attendance does enhance the marital relationship if the experience was viewed as positive. It was found that most fathers believed that attendance was important.

In 1987 Palkovitz did some research to describe first time fathers' motives for birth attendance, and parents' beliefs concerning the importance of father-infant bonding during the immediate postpartum period. Thirty-seven couples enrolled in childbirth education classes were given an open ended interview in the third trimester of pregnancy before classes had started. Intercoder reliability was greater than 95%. A series of questionnaires were also given with the focus being on the sources of information parents had regarding childbirth participation and why fathers planned to attend their partner's delivery. Reliability and validity of the questionnaires were not discussed. Thirty-five percent of the fathers said they couldn't identify a specific source as to how and when they had first heard about birth attendance. Another 32% said they had gotten their ideas about birth attendance from a friend. It was obvious that birth attendance was not a new idea for fathers, the mean estimate of 44% of the fathers who had previously known about fathers birth attendance was 6.99 years and this doesn't account for those fathers who could not ever remember not knowing about fathers birth attendance. The main motive (38%) reported for birth attendance was to offer support to their wives. Other reasons cited were that birth attendance is part of the father's role (14%), to satisfy curiosity (14%), because it would be a special moment (11%), for the marriage (8%), for

themselves (8%), persuaded by friends (5%), or to bond with the baby (3%). It was also discovered that both expectant parents have strong beliefs about the importance of paternal birth attendance for the establishment of a father-infant bond since it was mentioned frequently.

In his study published in 1988, Palkovitz delves further into the sources for beliefs of father-infant bonding. An in-depth examination of sources influencing the public's beliefs was done with a representative sample of 17 volunteers selected from a larger research project. This interview subsample was considered to be representative of the larger survey sample after comparing the demographic information provided on their response sheets to the characteristics of the larger survey sample. Further, the direction and strength of bonding beliefs of the interview subsample closely paralleled the beliefs of the larger survey sample. The subjects responded to a series of nine statements concerning father participation in birth and extra contact by indicating their level of agreement on a five-point likert scale. They were also interviewed individually. Subjects responses were recorded verbatim and coded into pre-selected categories by both the investigator and research assistant. Intercoder reliability, number of agreements per number of observations, exceeded 95% for all categories. There was a moderate-strong belief by 83% that fathers and infants bond at birth and most of them could

cite specific sources concerning scientific evidence for father-infant bonding. Those beliefs were influenced by general knowledge (48%), mass media productions such as talk shows (22%), and through reading (16%). Palkovitz concludes,

the findings of this study coupled with the results of the overall survey and data from a longitudinal study in changes in beliefs and attitudes across the transition to parenthood indicate that a small but significant minority of persons currently making the transition to parenthood are at risk for disappointment concerning the delivery and father-infant bonding.

Another study to predict attachment was done by Fortier (1988). The purpose of the study was to determine the relationship between the type of birth, vaginal or cesarean section, and father infant attachment. Other variables explored in relation to infant attachment were infant gender, previous children, father's presence at the delivery, and father's early contact with the infant. The sample consisted of 60 father-infant pairs with 30 vaginal deliveries and 30 cesarean sections, 15 planned and 15 unplanned. The fathers were all married and none of the infants had handicaps. A father-infant observation tool was used which measures father-infant attachment behaviors at one month of age. Each behavior on the instrument was documented in the literature and content validity was

established. Data was collected by two registered nurses. Before the study interrater reliability was established for each behavior at 85%. Throughout the investigation, interrater reliability was maintained by having both raters observe six randomly selected interactions determined by a table of random numbers. The mean level of interrater reliability was 91.5%. A paternal caretaking activities questionnaire was used with content validity being established by presenting the instrument to five experts across the country. Reliability was established through the use of test-retest on 20 fathers. The findings showed no significant difference identified for the three groups. The author felt that this might be attributed to the lack of sensitivity of the father-infant observation tool, or because of the small sample size.

Nicholson, Gist, Klein and Standley (1983) examined the effects of fathers' involvement in pregnancy and labor. Marital closeness and interest in children were examined in relation to aspects of the couples' labor interactions. Marital closeness, interest in children, and involvement in labor were then examined in relation to three sets of postpartum outcomes: fathers evaluations of the birth experience and newborn, confidence in the fathering role, and changes in daily life and marital relationship. Forty primiparous, married, caucasian couples comprised the sample. They were given a prenatal interview which included

questions about the pregnancy experience, husband's reactions to and involvement in the pregnancy, and expectations for childbirth and parenting. Interview items were rated on five-point likert type scales. Reliability of interview ratings of at least 95% for each item was established through the use of taped interviews rated independently for agreement by at least two members of the research staff. Participants were observed by a member of the research team for one hour in the mid-course of labor at the hospital. A time-sampling method was used to record aspects of the woman's physical state, medical and supportive events, and the content of conversations which involved the laboring woman. Summary ratings were made by the researcher after one hour of observation. Interobserver agreement of at least 95% was achieved for each coding category. Labor observation summary ratings, made by the researcher, were used as outcome measures for the prenatal father involvement variables of marital relationship closeness and interest in children. Ratings were made of three-point scales which included physical intimacy, relationship quality, and relationship effectiveness. Both parents were interviewed at home approximately one week postpartum where they rated the birth experience, perceptions of the newborn, and their adaptation to parenting. Again reliability of ratings for each item was at least 95%. When father involvement was looked at in

terms of prenatal marital relationship closeness, positive postpartum reports of the delivery and newborn were made. However, greater prenatal marital relationship closeness was also related to less change in daily routine in the first postpartum week and lower fathering confidence. When father involvement was conceptualized as helpfulness in labor it was positively related to postpartum evaluations of the labor experience and fathering confidence. Active father participation in labor may facilitate integration of the childbirth experience and promote paternal self-esteem. The authors were not able to conclude that greater father involvement in pregnancy and participation in labor and delivery result in a more positive experience, adaptation to fathering, and a closer marital relationship but the consequences were attributed more to the "conceptualization" of the experience.

Mother's Stress in Pregnancy and Childbirth

Much work has also been done to identify what factors cause stress, anxiety, complications, and other negative effects to the expectant mother. Chalmers (1982) did a review of several applicable references (specific number not identified) from the 1960's and 1970's in an attempt to identify what factors may influence psychological changes in pregnancy and how they relate to complications in pregnancy. The author concludes that the exact mechanism of anxiety and stress on pregnancy is not clearly understood but that there

is likely some general involvement, particularly when a life event stressor occurs. Some studies in the review hypothesize that, in the absence of psychosocial support systems, pregnancy complications may well be associated with high life changes. In support of this, Chalmers states that support systems such as doctors, nurses, friends, family, and significant others must not simply be present but must be effective in quality. They need to offer a realistic examination of fears and problems during pregnancy to prevent potential pregnancy complications. Chalmers proposes that the most widely used method of alleviating psychosocial fears regarding pregnancy is through attendance at childbirth education preparation classes which aim at reducing anxiety and promote relaxation during labor. In addition the supportive role of those attending the mother is emphasized. It appears that women who have experienced a preparation class require less medication during childbirth and are more likely to have a spontaneous delivery. A study of the models employed in Holland during pregnancy and childbirth suggest that their natural childbirth process probably produces less anxiety than the traditional methods employed in areas of the Western cultures. Chalmers concludes that there is much to be learned about a woman's psychological concerns during pregnancy and it is evident from the contradictory literature that the respective roles of life event stress, anxiety, and psychological support

systems in the development of pregnancy complications have yet to be fully understood.

Lozoff, Jordon, and Malone (1988) feel that childbirth is a time of vulnerability for both mother and child and it is influenced by cultural practices. The authors studied four different birthing systems: the United States, Netherlands, Sweden, and the Maya Indians of Yucatan. Seven dimensions are presented whereby the four different systems are compared. One of those dimensions is the analysis of attendants and support systems. The identity of birth attendants largely determines the nature of interactions between the woman giving birth and others present, thus influencing to a significant degree the way in which she experiences the birth event. In the United States often only medical personnel are available and are viewed as physicians assistants rather than the mothers helper. In the other three countries birth is more of a collaborative affair in which all present participate. In this analysis of the four birthing systems it is apparent that the United States system is much different than other cultures and is a medical, pathological event. To further determine whether or not the U.S. practices of childbirth are unique to industrial societies the authors analyzed ethnographic records available for a sample of 186 nonindustrial societies. One finding was that the influence of the father's birth attendance on their subsequent involvement

with their children is liable to depend on many factors in industrialized nations, which doesn't seem to be the case in other cultures. A topic that cross-cultural studies have not yet addressed adequately is the question of father involvement in pregnancy, birth, and the postpartum period.

A study by Affonso and Mayberry (1990) was done to identify stressors common in pregnancy and to quantify their intensity. A convenience sample was taken from patients attending an outpatient clinic affiliated with a university medical center. There were 221 women in the sample: 81 in their first trimester, 80 in their third trimester, and 60 postpartum. Women in their second trimester weren't included because that time frame had been described as the period of the lowest psychological stressors and optimum adaptation to gestation by Colman and Colman (1971). No mention was made of reliability and validity. The data was collected during a 20 to 30 minute interview. The women were first asked to identify events perceived as stressful and then to assign a numerical rating between 1 and 100 to that event. Only negatively judged stressful events were elicited. There were 1403 stress related responses elicited by the sample group. The most frequent stressors for the total group were fatigue and accompanying physical distress such as sleep disturbances and physical limitations. High intensity stressors reported were fears of pain, complications, and the threat of a cesarean section. A high

intensity stressor reported across all three groups was the strong influence of the pregnancy on a woman's relationship with the baby's father. Womens' perceptions of stressors were shown to differ across the first and third trimesters and the immediate postpartum period. Intensity also changed across gestation and postpartum. There were some limitations cited by the authors. First, there was a small sample which was skewed toward the older, educated, primarily white, multigravida with an uncomplicated pregnancy. The postpartum sample was 25 percent smaller than the two pregnancy groups. Also the second trimester wasn't included in evaluation nor were positively perceived events.

A review of literature from several references (number not identified by authors), from 1960 through 1982 was done by Mowbray, Lanir, and Hulce (1982) to determine how motherhood affected ones mental health. They concluded that pregnancy and childbirth can be a critical and stressful life event especially for first time pregnancies and for some high risk women. High risk seems to be based on situational factors as well as on the woman's previous experiences of coping and dealing with anxieties. The stress experienced can be mitigated by strong family relationships and support. The fathers' involvement and interactions also have a significant impact which is felt not only by the mother but by the father and child as well.

Family Stress in Pregnancy and Childbirth

The family as a whole can feel strain in the transition to parenthood as described by Grossman (1988) in a review of literature. The review was conducted on an unidentified number of articles and books published from about 1957 through 1986. Strain is described as the experienced discomfort of individuals reflected in a negative mood, accompanied by a sense of being overwhelmed, and inadequate to meet the demands of the situation. The study looked at parents in early pregnancy, during the early postpartum period, and longitudinally, 6 to 12 months postpartum. Findings supported the assumption that men and women do experience some strain in the transition to parenthood yet women generally have more strain than men.

Stress, as defined by Mercer, Ferketich, DeJoseph, May, and Sollid (1988) is undesirable events, negative life events, and pregnancy risk conditions that challenge the family's resources for dealing with the events. The purpose of this study was to determine the effect of antepartum stress on family functioning. The hypotheses were taken from the assumptions that stress from negative life events has a direct negative effect on self-esteem and health status and that self-esteem, health status, and social support have a direct positive effect on self mastery. The first hypothesis was that high risk women experiencing antenatal hospitalization and their partners will report

less optimal family functioning than low risk women and their partners. The second hypothesis was that the expectant partners will report similar levels of family functioning. The sample consisted of 593 subjects: 153 were hospitalized pregnant women, 75 were expectant partners of the high risk women, 218 were low risk pregnant women, and 147 were partners of the low risk women. Data was collected through a semi-structured interview (there was no mention of reliability or validity), and with a booklet of several self completed, standardized, validated instruments that measured such things as negative life event stressors, self-esteem, state-trait anxiety, depression, sense of mastery, perception of health status, and social support. Both of the hypotheses were supported but the second one was supported only in the high risk situation. An identified limitation was that the pregnancy risk scale should have had the risk items more proportionate to each other so that the extent of the pregnancy risk as a stressor could be measured.

A pilot study by Williamson and English (1981) lends support to the fact that stress is indeed experienced by couples during pregnancy. The purpose of their study was to examine the nature of support and stresses experienced by nine couples and the role of the family physician in caring for those couples during a first pregnancy from the third trimester through the initial eight weeks of parenthood.

Interviews with the individuals and with the couples were conducted to evaluate support, stresses, and coping styles. Physicians were interviewed to determine their knowledge of these dimensions. Semi-structured interview formats included five-point scaling as well as open ended questions. The same investigator interviewed the same member of the couples in each of the individual interviews and each investigator interviewed about an equal number of men and women to distribute any interviewer error. All of the interviews were done during the third trimester and at labor and delivery. Content analysis was assured by compiling information from all taped interview transcripts according to major categories for each participant and physician. The findings showed that

each of the participants perceived predelivery stressors related to the pregnancy and to concomitant life changes. Emotional and technical support was high; only two of the nine husbands felt a marked lack of emotional support from any source. All women felt a high level of support. While pregnancy related concerns and support were perceived by all physicians, general stresses, and sources of emotional support were infrequently known. Significantly more was known about the women than their husbands. Attention to psychosocial issues appeared to depend on physician style of interaction with a couple. When recognized,

stresses were reduced by provision of information, discussion, and reassurance.

The authors recognized that the results cannot be generalized because of the small sample size made up of married couples who attended childbirth classes.

A study by Brown (1986) was designed to identify factors that contribute to the health of both expectant parents and to examine the role social support plays in enhancing the individual's sense of well-being during pregnancy. The sample consisted of 313 couples. Three instruments were used. On the Support Behaviors Inventory (SBI) couples rated their level of satisfaction with support on a six-point scale. From the SBI two subscales were formed, Satisfaction with Partner Support and Satisfaction with Other Peoples Support. These scales demonstrated internal consistency reliabilities of .97 and .98 respectively as assessed by Cronbach's alpha. A health responses scale which consisted of 50 items tested the concept of health, the Cronbach's alpha was .89. The Stress Amount Checklist (SAC) which was used to measure stress commonly experienced during pregnancy is a seven-point scale. The internal consistency reliability of the SAC was .72 using Cronbach's alpha. The data suggest that stress played a consistently important explanatory role for the health of the expectant parents, although the effect was greater for women (9% of the variance as compared with 2%

for the men). This may be due to the physiologic alterations of pregnancy. Partner support appeared to be the most important variable in understanding expectant fathers' health (20% of the variance). These findings are compatible with the view that stress is an important force in provoking illness and support is a balancing force in mediating health.

Father's Stress in Pregnancy and Childbirth

As previously shown, many investigators have viewed pregnancy as a period of considerable upheaval for a woman but much less attention has been given to the psychological aspects of expectant fatherhood. Osofsky et al. (1985) looked at the transition to parenthood and the risk factors for parents and infants. They studied the process of the transition to parenthood by following primiparous women and their husbands ages 18 to 35 during the course of pregnancy and for a minimum of one year following delivery of the infant. They studied in more depth 50 couples at psychosocial risk, 50 with maternal medical risk factors, 50 with infant medical risks, 50 with multi-risk situations, and 50 at apparently low risk. They obtained information on participants' backgrounds, life stresses, psychological factors, and medical problems experienced by the mother and the infant and its impact on the individual parents, on their relationship as a couple, on the parent-infant interaction, and on the infant's development. They compiled

preliminary data on the works of others as well as on their own. They found that many factors such as life circumstances, age, degree of religious background, family and community support, and the strength and flexibility of the relationship all seem to be important in the father's adjustment to parenthood. Although a lot of men reported feeling pride and excitement about the pregnancy, other feelings also emerged. They said they felt strange and worried about anticipated changes in their lives and about their relationship with their wives. Some reported being overwhelmed with a greater sense of responsibility. Rivalry was felt towards the baby, and feelings towards one's partner ranged from envy to a feeling of greater warmth and tenderness. The authors conclude that the available clinical studies concerning adjustment to expectant and new fatherhood have focused on emotional difficulties that men experience during their wives pregnancies or new parenthood rather than on the process as a developmental phase. They conclude that men, especially first time fathers, undergo considerable shifts and internal disequilibrium during this time. Most men experience profound changes in their sense of responsibility, in their relationship with their spouse, and in their feelings about themselves.

Osofsky (1982) looked at fatherhood as a developmental crisis. A review of literature made up of several studies (numbers not mentioned) and going back six decades to 1931

was done regarding adjustment and development of expectant and new fathers, a pilot study designed to help develop measures for a broader scale investigation of the coping mechanisms of couples during pregnancy and new parenthood, and an analysis of his obstetrics practice helped him to conclude that men in general undergo a considerable upheaval during the course of a pregnancy and following the birth of a baby. The author found that a number of concerns felt during the pregnancy reemerge during the labor and delivery. Many fathers wonder if they will be able to provide support to their wives during labor and delivery, they wonder if anything will happen to their wife or to the baby, and they question whether or not they are ready to be a father. Some men express that they feel secondary and they are annoyed at being left out. Sometimes after the birth they feel excited and proud and a conflict arises as they want to be cared for and the baby doesn't meet their expectations. When men become fathers for the first time they undergo considerable shifts and internal disequilibrium and few are ever the same as they were before pregnancy. From the literature review, Osofsky agreed with the hypothesis that new fatherhood is a crisis and a developmental opportunity for maturation and new growth.

Lemmer (1987) reviewed 31 studies dating back to 1976 that employed interviews, observations, analysis of personal documents, questionnaires, and a review of records to

examine the experiences of fatherhood. Most of the studies utilized subjects that were volunteers or convenience samples. The designs were non-experimental, quasi-experimental, experimental, cross-sectional, or longitudinal. Two studies were located that addressed the effect of anxiety or stress on health during pregnancy. Fishbein (1984) found that as expectations of both spouses for the paternal role became more congruent, paternal anxiety decreased. Brown (1984, 1986) reported that expectant fathers had lower stress scores than mothers during pregnancy. From May, (1984) it was observed that emotional involvement in pregnancy correlated with readiness for fatherhood. The author identified four factors contributing to readiness: financial security, desire and intent to become a father, a sense of closure to the childless portion of the marital relationship, and perceived stability in the marital relationship. Issues of concern to fathers were listed as financial security, changes in lifestyle, changes in the marital relationship, changes in the sexual relationship of the couple, infant care skills and adequacy in the fathering role, anxiety about the upcoming events such as labor and delivery, and the condition of and damage to the fetus and wife. Perceptions of childbirth vary from man to man. Leonard (1977) found that fathers viewed delivery as a slightly more positive experience than labor. Men frequently described labor as a

time of helplessness and as delivery neared men's focus shifted from their wives to the infant and themselves. Of the many perceived needs of expectant fathers during childbirth, many dealt with wanting to be in control of the uncontrollable and to be nurtured and cared for. When an unanticipated cesarean section took place the common reactions were relief, acceptance, disappointment, and anger. Common negative reactions focused on the actions of care providers and policies which hindered fathers participation and separated them from their partner and/or infant.

McLaughlin and Taubenheim (1983) designed a descriptive study to compare the psychosocial needs of first-time fathers who had not attended childbirth education classes (unprepared fathers) with the needs of first-time fathers who had attended childbirth education classes (prepared fathers). The study intended to compare the needs perceived by both groups of fathers both before and after their labor and delivery experiences. Needs reported by each group of fathers were compared to needs reported after the experience. The 50 statement questionnaire was set up to determine the needs of expectant fathers during the childbirth experience. It was designed by one of the authors and was validated by a panel of expert psychologists. No mention of reliability of the questionnaire was made. There were 11 fathers in the

unprepared group and 20 in the prepared group. The questionnaire was given to each unprepared father during the last trimester of his wife's pregnancy and during her postpartal period. The data collected was compared with the results of an earlier study of the prepared fathers group. An overview of both studies revealed that the expectations and needs of fathers during the childbirth experience are very similar whether they attend childbirth classes or not. Both groups of fathers noted that knowledge about what was happening to their wives in labor was beneficial to them.

Hangsleben (1980) analyzed the impact of fatherhood on new fathers and the many different areas that affect men including the birth process. In this review of literature dating back as far as 1931 the author quotes Colman and Colman (1973) as saying "as the birth draws near, he probably feels some degree of anxiety over the safety of his spouse and child, the financial burden, and the role he will play in the labor and birth". Other needs identified were to not feel like a visitor in a foreign place, to be involved in the childbirth, to enhance the couples relationship, to understand what was happening in labor, and to have their emotional needs met first and their physical needs met second. It was supported by many of the studies reviewed by Hangsleben that men who attended their partners deliveries had a greater sense of self esteem in respect to their role and that the father-infant bond was enhanced.

The purpose of Connor's and Denson's (1990) study was to present a review of the research literature from 1963 through the 1980's on expectant fathers' responses to pregnancy and then to pose research implications from the findings for those fathers experiencing a high risk pregnancy. Their review lends support to the premise that couvade exists but questions still remain as there were differences noted in types and perceived seriousness of symptoms. Many of the studies reviewed show that anxiety is likely to occur in expectant fathers. Hayman describes three stages of stress in fathers experiencing a preterm birth: reaction to the event, coping with the event, and adaptation to the event. Exhaustion was reported by the men if they had limited resources to rely on.

Fishbein (1984) wanted to find out if the father's stress was due to the mother's expectations. The relationship between stress in the prospective father and congruence of attitudes between husband and wife regarding the projected role of the father with the newborn was studied. The sample included 103 prenatal, married couples having their first child. They were in their sixth to eighth month of pregnancy and did not have any significant life events occurring. Alter's Projected Paternal Behavior Scale was used. It is a likert type scale which consists of 55 childcare behaviors for which each parent is asked to project the amount of anticipated involvement for each

behavior by the father. Scores were obtained for the father and the mother, and a third score that represented the amount of divergence between the parents was calculated. Anxiety was measured by the Spielberger State Anxiety Inventory which can differentiate between state and trait anxiety. The scale was administered to the father only. The results showed that as the two parents expectations become more congruent anxiety decreases. Reliability and validity for these tools was not reported. No correlation was shown between how much the father participated in childcare and anxiety but that they had similar expectations. There was no discussion as to limitations of the study.

An exploratory study was conducted by May (1982) which looked at 20 first time expectant fathers in the San Francisco Bay area from 1977 through 1979. The expectant parents were interviewed and observed by the author during the prepared childbirth classes. Literature was reviewed and documents analyzed. From this data collection the term "observer style" was coined which refers to someone who is not caught up in the experience. These individuals are normally unemotional and matter of fact. When the staff is overzealous with these types and don't individualize care the person may experience anxieties. When these fathers are forced to attend the birth they feel pressured and subsequent guilt because they aren't living up to the role

of the expectant father. May feels that it is just as inappropriate to pressure fathers to become involved in a particular way in pregnancy and birth as it is to restrict all fathers from any kind of participation.

Glazer (1989) demonstrated that all expectant fathers experience some degree of stress. An exploratory study was conducted to identify anxiety levels and stressors of expectant fathers. The research was built on previous studies using reliable and valid instruments. The sample consisted of 108 men selected from childbirth class lists and the mean gestation of the partner was 7.82 months. The State Trait Anxiety Inventory (STAI) was used to measure state anxiety. Test-retest reliability coefficients have been reported as .92 to .94. The coefficient was obtained for the STAI of expectant fathers by estimating the alpha coefficient, and the result was .89. The Feelings of Pregnancy Questionnaire (FOPQ) which measures the numbers and intensity of stressors was adapted by the investigator from a tool developed to identify numbers and intensity of stressors during pregnancy for men. The FOPQ was pretested for reliability with 56 expectant fathers. A Cronbach's alpha of .78 for part one and .84 for part two was obtained. The Spearman-Brown coefficient was .79. The alpha coefficient was .96, and the split-half coefficient was .85. Reliability coefficients were also computed to estimate stability by doing test-retest reliability on 54 men, and

the result was .82. The third tool was an information sheet used to describe the sample and identify variables that may be associated with a number of stressors and anxiety level. The results showed that all 79 of the stressors on the Feelings of Pregnancy Questionnaire were identified by at least one of the 108 fathers. There were 10 stressors pertaining to the actual childbirth and they were the ones most frequently experienced. All of them were identified by more than half of the men. Some of the specific stressors which were identified by a large percentage of the men were the fathers role in labor and delivery, concern about baby being healthy and normal, concern about care given by the nurses, doctors, and midwives, concern about their partners childbirth pain, unexpected things occurring in labor and delivery, labor complications, and experiencing the type of birth desired.

The purpose of Jordan's (1990) study was to describe the experience of expectant and new fatherhood. Fifty-six expectant and recent first time fathers participated in open-ended interviews. Interviews were audiotaped at a place and time convenient to the subjects. More than 180 interviews served as the data base for this study. All men whose mates were in the first half of pregnancy participated in the longitudinal portion of this study. Those subjects were interviewed six to seven times over the perinatal period: as soon after conception as possible, after their

mates felt fetal movement, late pregnancy, as soon after the birth as possible, six weeks postbirth, and one year postbirth. Fathers in the cross-sectional group were interviewed at only one of the above specified times as they were not recruited for the study by the first half of their mates pregnancy. The interviews were conducted by the investigator and subjects spoke for 30 to 60 minutes in response to the question, "what can you tell me about your experience of being an expectant/new father?". To establish interrater reliability, two graduate students independently reviewed several transcripts to determine whether they could identify examples of the core categories. Core categories were determined using the Grounded Theory Method (Glaser, 1978; Glaser & Strauss, 1967; Strauss, 1987). Each phrase, line, paragraph, and statement in the interviews was reviewed to determine what concept the datum reflected and was then coded. Similarities and differences were noted and related codes were categorized. Through constant comparison core concepts were identified which most economically, consistently, and validly allowed classification of data to be conceptualized. The concepts were eventually integrated into a framework for understanding the phenomenon being studied. Construct validity was supported by reviewing categories with subjects as they were identified and developed, and by reviewing the developing theory with subjects as they completed participation in the study.

Presentation of the new theory to new and expectant fathers who had not participated in the study also supported construct validity. Concurrent validity was addressed through comparison of these findings to those reported in the literature. No specific numbers for reliability and validity were given. Men in this investigation felt excluded from the childbirth experience by their mates, health care providers, and society. The participants wanted to be involved parents, but they did not believe they had the knowledge, skills, or support to do so. The findings of this study support the theory that the essence of the experience of expectant and new fatherhood is laboring for relevance. Laboring for relevance is a process consisting of three subprocesses: grappling with the reality of pregnancy, struggling for recognition as a parent, and plugging away at the role-making of involved fatherhood. Individuals within the father's environment act to promote or impede his evolution. One possible limitation of the study addressed by the author was that the subjects were limited to those men who were living with their mates and children. The author also felt that additional study is needed to determine the validity of the developing theory.

Shannon-Babitz (1979) recognized the importance of helping fathers deal with childbirth experiences as home visits were made one week postpartum. The author found that when fathers were afforded the opportunity they talked

openly about thoughts, fears, and needs during the intrapartum period. One suggested phenomena is that because some fathers over identify with their wives pregnancy they experience the couvade syndrome. If some men are so involved in pregnancy they feel their own bodies changing, they may have a carry over to birth where they feel anxiety and apprehension. Others disagree and suggest a relationship between a man feeling pregnant prenatally and feeling fatherly postnatally. Although the cause of apprehensive feelings may not be known it seems to be a fact that stress does occur. One father expressed feeling left out, and that he was treated third rate, when he stated "my needs were considered last if at all". Many fathers felt worried and frightened due to the foreignness of the situation and the physical and psychological changes occurring. Anxieties and fears soared as unexpected events occurred and frustration and anger was directed at the hospital staff as fathers experienced helplessness and lack of control. Some reported that thoughtless statements made by the staff could detract from the situation.

Phillips and Anzalone (1978) describe the experiences of fathers during labor and delivery. They cited that the father's presence in labor and delivery helps reduce the woman's feelings of loneliness and rejection, provides a sharing experience, and deepens the marital relationship. They reported the need to help fathers during the labor and

birth experience. Many fathers are quoted as they talk about labor and delivery. The many adjectives used to describe this experience show that it can be a very stressful time. Intrusion, jealousy, anxiety, general uptightness, horrendous, lonely, painstaking, frustration, anger, intruding appendage, dread, guilty, powerless, irritated, and innocent bystander are just a few of the terms used by fathers to explain their feelings.

Stress is recognized by Berry (1988) who employed a descriptive, retrospective questionnaire to determine the behaviors of 40 first time married expectant fathers to the stress generated by their spouses labor and delivery. The instrument contains both open and closed ended questions as well as graphic rating scales. Berry showed the reliability of the scale using a test-retest approach; Cronbach's alpha yielded a .90 reliability coefficient. Two steps were taken to validate the instrument. First, content validity was assured by consensual validation. Experts rated the questions based on objectives set forth by the author. Second, criterion related validity was established by a .80 correlation coefficient. The questionnaire was distributed within 36 hours after delivery and elicited responses for four time periods during the labor and delivery: beginning of labor, early labor, labor at its peak, and during the delivery of the infant. The results of the study showed that expectant fathers found labor and delivery to be

progressively more stressful as time went on. The stress reached its peak with the delivery of the infant. Concerns were also reported about the well being of their spouses, their abilities as a coach, and wanting to be helpful while wrestling with trying to hide their own feelings. They also felt that the demands of the situation might exceed their capabilities to cope. Reported limitations of the study were that it was a small sample size and only married first time fathers were included so there could be no generalization of results.

Literature Summary

The literature has shown that fathers experience a myriad of emotions and responses throughout their partner's pregnancy as well as through her labor and delivery. The studies found fathers have become more involved in the birthing experience but they have not found or supported the benefits or risks to the father with this increased participation. The mother and baby have been the primary focus of the research with little attention paid to the father. This study took a look at levels of stress of fathers attending their partner's labor and delivery and how that stress was manifested in their behaviors.

Conceptual Framework

Roy's Adaptation Model states that the recipient of nursing care is an adaptive system. This ability to adapt

will allow a father experiencing stress to make positive changes. The human system functions holistically and is more than the mere sum of its parts. Being adaptive, the human system also has the capacity to adjust effectively to changes in the environment which in turn, affects the environment (Roy & Andrews, 1991).

A systems theory is utilized by Roy to further describe the person. Inputs for the person come from a couple of different sources: external from the environment or internal from the self. Certain stimuli pool to make up a specific input or the persons adaptation level which is the changing point that represents ones ability to respond positively in a situation. The output is the persons response to the input stimuli and his individual adaptation level. "Inputs are mediated by the control process subsystem of cognator and regulator coping mechanisms. The regulator mechanism is an automatic neuroendocrine response while the cognator subsystem represents perception, information processing, and judgments influenced by learning and emotions" (Roy and Andrews, 1991). The adaptive modes; physiologic, self-concept, role function, and interdependence are the form in which regulator and cognator subsystems manifest their activity (Chinn & Jacobs, 1987). All of the various aspects of the person are interrelated and anything happening to one aspect will affect the other.

The environment or the world around us affects the person as an adaptive system as they are in constant interaction with each other. Roy separates the environment as three classes of stimuli, focal, contextual, and residual. These three groups of stimuli change rapidly with a constant changing environment. The focal stimulus is the internal or external stimulus immediately confronting the person or the event or object that attracts ones attention. Some stimuli may never become focal or immediately confront the person because they may never be particularly pleasant or unpleasant or because they are changing (Roy & Andrews, 1991).

Contextual stimuli are all other stimuli that contribute to the effect of the focal stimulus. These stimuli are all the environmental factors that present to the person from within or without but are not the center of the person's energy or attention. These factors will influence how the person deals with the focal stimulus and affect the situation. Contextual stimuli are also within or outside the person and they can be positive or negative factors.

Residual stimuli are environmental factors within or without the person whose effects are unclear to the current situation. The person may not be aware of the influence of those factors. This area of stimuli allows the nurse to include uncertainties and to use her own intuition when

categorizing stimuli. When these three areas of stimuli are identified and pooled they determine a range of coping for the individual.

Stimuli and adaptation level serve as inputs to the person as an adaptive system. After processing this input through control mechanisms, a response is made which can be an actual or potential health problem. In Roy's Adaptation Model these responses are labeled behaviors which are internal or external actions and reactions. Of utmost concern is whether or not the behavior is adaptive or ineffective. To judge the effectiveness of a behavior the condition and circumstances must be analyzed with the individual, however Roy offers some guidelines for nursing judgments about adaptive behaviors. Adaptive responses are those that promote the integrity of the person in terms of the goals of adaptation which are survival, growth, reproduction and mastery. An ineffective response would be one that doesn't contribute to the goals of adaptation, and which may even be a threat to those goals (Roy & Andrews, 1991).

Six steps have been identified in the nursing process according to the Roy Adaptation Model. This study completed the first two steps of this process: assessment of behavior and assessment of stimuli. From this information the next four steps can be completed: nursing diagnosis, goal setting, intervention, and evaluation.

As fathers completed the questionnaire they were able to identify their perception of a reaction, stress, to their partner's labor and delivery. They also identified some physical symptoms that they may have experienced and actions taken during that time. These behaviors can be further divided into the four interrelated adaptive modes. There is little serious threat to the physiological adaptation of a father during his partner's labor and delivery yet the possibility for minor manifestations exists.

The self concept mode focuses specifically on the psychological and spiritual aspects of the person. The basic need underlying this mode has been identified as psychic integrity and a threat to this integrity exists during the labor and delivery of ones partner. Self concept directs ones behavior and an interruption in the norm could disrupt adaptation.

The role function mode focuses on the roles the person occupies in society. A role is defined as a set of expectations about how a person occupying one position behaves toward a person occupying another position. Many of the participants of the study underwent a major role function change as they become fathers and it may interrupt social integrity or the need to know who one is in relation to others.

The focus on the interdependence mode is on the interactions related to the giving and receiving of love,

respect, and value. Two specific relationships are the focus of this mode, significant others and support systems. The basic need of the interdependence mode is affectional adequacy which is the feeling of security in nurturing relationships.

Much of the questionnaire addresses stimuli in the environment that may or may not contribute to a father's stress. The subjective reporting of the stimuli by these fathers allows nurses to analyze, diagnose adaptive behavior or ineffective coping, and work toward the goal of adaptation promoting personal and family integrity and mastery.

When labor and delivery nurses recognize common stressors or stimuli to fathers during their partner's labor and delivery they can intervene to help the fathers acquire appropriate coping mechanisms. There are two defined coping mechanisms in Roys Model, innate which are genetically determined or automatic responses and acquired which are developed through processes such as learning. This acquired coping mechanism is further divided into regulator and cognator subsystems. The cognator subsystem is where the nurse can have an influence. The changing environment which allows the person to make adaptations is another area where the nurse can manipulate and manage certain stimuli. Once this intervention is completed an evaluation of the person's behavior is done to see if goals are met. Although this

study deals mainly with the assessment portion of the nursing process the findings can serve as direction for completion of the steps.

Assumptions of the Study

1. Labor and delivery causes stress to expectant fathers.
2. There are specific variables that contribute to expectant fathers' stress.
3. Participants will respond honestly and give equal attention to all questions.
4. There are some interventions that nurses can implement to help decrease stress of expectant fathers.

Stress levels were determined by the fathers through their answers on the questionnaire. Roy refers to stress by stating wellness and illness directly relate to stimuli falling within the zone of the clients adaptive level, thus evoking adaptive responses. This study may aid in further operationalizing stress for fathers in the labor and delivery situation.

Research Questions

1. What is the level of stress of fathers in early labor?
2. What is the level of stress of fathers from admission to the hospital until labor reached its peak?

3. What is the level of stress of fathers during the delivery of the baby?

4. Can the levels of stress be differentiated between the stages of labor?

5. What specific variables contribute to father's stress during their partner's labor and delivery?

6. What behaviors do fathers exhibit in relation to stress during their partner's labor and delivery?

Chapter III

METHODOLOGY

Research Design

A retrospective, descriptive survey of fathers was utilized to identify significant relationships between their stress during labor and delivery and other influencing variables. A modified version of the Berry Expectant Fathers Stress Index (BEFSI) was distributed to the father within 36 hours of his partner's delivery of a healthy baby. The questionnaire was given to all fathers of healthy newborns attending their partner's labor and delivery after the mother's immediate recovery period at two hospitals in Southern Utah. The labor and delivery staff at both hospitals were inserviced regarding distribution and collection of the questionnaires. The fathers were asked to complete the questionnaire prior to their partner's discharge from the hospital and deposit it in a box provided at the nurses' station.

Human Subject Rights

Subject participation was voluntary, a letter attached to the questionnaire served as an explanation of the study as well as consent to participate (Appendix A). There were no identified risks to the participants and there were no financial obligations associated with participation in the study. The questionnaire took about 20 to 30 minutes to

complete. The fathers were given an envelope in which responses could be sealed before they were put into the return boxes. The staff did not see the participant's responses and confidentiality was assured.

Sample

The sample consisted of mostly white males who were present during their partner's labor and delivery. They may or may not have been legally married to the mother but were acknowledged as the father of the infant by themselves or by their partner. Data was collected during a seven month time period. There were 102 completed questionnaires, 34 from one hospital and 68 from another. The small percentage of questionnaires distributed at the first hospital resulted from an inability to incorporate distribution of the survey into the nurses normal routine.

Instrument

The Berry Expectant Fathers Stress Index, a self report questionnaire was used to determine behaviors of fathers to stress generated by labor and delivery. The survey elicits responses for four time periods during the labor and delivery: 1) the beginning of labor; 2) early labor; 3) labor at its peak; and 4) during the delivery of the infant. Fathers are asked to list feelings and concerns experienced during their partners labor and delivery and to identify whether or not that feeling elicited stress.

Actions that help fathers cope and significant relationships between stress experienced during labor and delivery and several demographic and influencing variables are also identified. Consent for use of the Berry Expectant Fathers Stress Index was obtained (Appendix B).

The instrument has been modified to fit this particular study. Only three different time periods were looked at: early labor, labor from admission to the hospital until it was at its peak, and during the delivery of the baby. The word "spouse" has been changed to partner since the couples did not have to be married to participate. In section I, question four asks which prenatal class the participants attended, these were changed to reflect the courses offered in the Southern Utah area. A question has been added to determine years of education. In the question asking about religious preference, "LDS" has been added since this is the predominant Utah religion. Under the question regarding race, "American Indian" was added. Questions were also added to determine which baby this was for the father as well as for the mother. Many questions have spaces for the participant to check a specific grouping rather than fill in a blank in order to more easily code the information for statistical analysis. The scales have had numbers added from one to five so fathers can more easily quantify feelings and concerns. On the sections where fathers list

their feelings, a question was added to determine if that feeling was stressful for him.

As a labor and delivery nurse, this researcher has watched several fathers during their partner's labor and delivery and has taken note of certain behaviors. This has caused the researcher to ask what other factors could increase or decrease stress during this time period. For instance, often the laboring mother wants her parents or a friend with her during labor and this researcher has often wondered how the father feels about the presence of this extra person so a question was added to elicit information regarding this. Also, it was noted that some fathers never leave the labor room and they stay with their partner from beginning to end. Questions were added to find out if this played a role in their stress. Another factor that may increase stress is determined by mode of delivery so a question has been added to find out if the delivery was normal or assisted.

Many fathers seem to have difficulty in coping with complications that occur or with their partner's pain. Questions were added to the survey to find out if these are stress producing occurrences. Nothing was deleted from Berry's original survey but the spelling of labor was changed from labour.

The researcher felt that the four different time periods in Berry's questionnaire were redundant and

confusing so the questionnaire for this study was modified. The second two time frames from Berrys Index, early labor in the hospital and labor at its peak were combined into one. The fathers were asked to rate their stress for three different time periods: 1) early labor or labor prior to admission to the hospital; 2) labor from the admission to the hospital until it was at its peak; and 3) during the delivery of the baby. These sections were highlighted on the questionnaire so that participants could more readily distinguish them one from another.

This instrument contains both open and closed ended questions as well as graphic rating scales. Berry (1988) showed the reliability of her scale using a test-retest approach, Cronbachs alpha yielded a .90 reliability coefficient. Two steps were taken to validate the instrument. First, content validity was assured by consensual validation. Experts rated the questions based on objectives set forth by Berry. Second, criterion related validity was established by a .80 correlation coefficient.

Pilot Study

A pilot study was done prior to finalization of the questionnaire format. The questionnaire was given to three fathers in a pilot study done in November of 1991 at hospital two. The fathers were asked to critique the questionnaire for readability and ease of completion. All three men were able to complete the questionnaire with ease

and without instruction other than that included in the questionnaire. They felt that they were able to express their feelings sufficiently using this tool. One father felt that it was repetitious; however, without the repetition the researcher felt that the research questions could not be sufficiently answered so the questionnaire was left as is.

Chapter IV

DATA ANALYSIS AND RESULTS

This chapter describes the analysis of the data and presents the findings generated from the study. The descriptive data will be presented first followed by the statistical analyses.

Sample Description

The sample consisted of 102 men who attended the labor and delivery of their partner. Data was collected from December 1991 through June 1992 at two hospitals in a southwestern state. Thirty four of the men completed the questionnaire at hospital one and 68 of them at hospital two (Table 1). The participants ages ranged from 20 to 54 years old with a mean of 29.18 years and a mode of 23 years. There were 98 Caucasian participants and two each American Indian and Hispanic. The mothers ages ranged from 17 to 44 years of age with a mean of 26.5 and a mode of 21. Ninety six (95%) of the couples were married, one participant didn't answer the question. The participants were asked how long they had been married or with their partner, their answers ranged from zero to 23 years, the mean was 9.47 years, the mode was 2 years, and the standard deviation was .22.

Table 1

Comparison of Frequency Distributions for Demographic
Characteristics of Hospital One With Hospital Two

	<u>Hospital One</u> (N = 34)	<u>Hospital Two</u> (N = 68)
	<u>Means</u>	<u>Means</u>
Father's age	29	29
Mother's age	26	26
Years married	6	6
How many babies	(range 1-9)	(range 1-15)
Father	2.68	2.75
Mother	2.8	2.6
	<u>Percents</u>	<u>Percents</u>
Prenatal class attendance	23.5%	61.8%
Education		
High School	26.5%	17.6%
College/Trade	17.6%	39.7%
College Graduate	35.3%	32.4%
Religion		
LDS	86.4%	91.2%
Faith		
Very Religious	50%	59.1%
Average	35.3%	31.8%
Not Very Religious	14.7%	9.1%
Race		
American Indian	2.9%	1.5%
Caucasian	97.1%	95.6%
Hispanic		2.9%
Delivery Type		
Vaginal	69.7%	60.3%
Assisted	21.2%	10.3%
Cesarean	9.1%	29.4%
Pain Relief		
None	17.6%	5.9%
IV Medication	11.8%	5.9%
Epidural	58.6%	70.6%
Paracervical/Pudendal	5.9%	2.9%
Local		2.9%
Unknown	2.9%	1.5%
Combination	2.9%	5.9%

Religious preference of the participants were two Catholic, one Jewish, 88 Latter-Day-Saints or Mormons, four Protestants, two other, three answered "none" and two didn't answer the question. Of the 100 who answered the religious preference question, 56 rated themselves as very religious, 33 as average, and 11 as not very religious.

Thirty one of the fathers as well as the mothers were having their first baby, 30 men and 29 women were having number two, 13 men and 15 women were having number three, ten men and 11 women were having number four, six of both men and women were having number five, five men and three women were having number six, four of both men and women were having number seven, one man and two women were having number nine baby, one couple was having their eleventh child, and one man was having his fifteenth child.

Of the 102 fathers, fifty (49%) of them attended a prenatal class. Of those 50 who attended a class 49 stated where, four (7.8%) attended at hospital one, thirty five (68.6%) attended at hospital two, and twelve (23.5%) attended a class elsewhere. Of those who attended a prenatal class, thirty eight (76%) attended all the classes held, one (2%) attended half of the classes held, eight (16%) attended more than half of the classes held, and three (6%) attended less than half of the classes held. The educational level of the fathers were four who attended some high school, 21 were high school graduates, 33 had attended

some college or trade school, 34 were college graduates and ten of them had completed graduate school.

The mean number of hours in labor was 11.59 with a mode of six and a range from one to 48 hours. The most common type of pain relief used by the mothers was epidurals, 61 of the women had epidurals, eight had intravenous narcotic medications, four had a paracervical or pudendal block, two had a local anesthetic, 10 had nothing, and 16 had a combination of pain relief options. Vaginal deliveries accounted for 63.4 percent of deliveries, 13.9% were deliveries assisted by forceps or a vacuum extractor, and 22.8% of the deliveries were performed by cesarean section. Table one compares the demographics of the participants from the two different hospitals. The two samples are very similar in almost all variables. There were significant differences shown between the two samples in prenatal class attendance, type of delivery, and pain relief. Prenatal class attendance was much higher at hospital two. This may be due to the smaller sample size at hospital one or the difference in cost of the class at hospital one (eight dollars more than at hospital two).

There is a much higher rate of epidural blocks given at hospital two compared to hospital one. This can most likely be attributed to the fact that there is only one obstetrician at hospital two and he strongly recommends epidural anesthesia for labor and delivery. The epidural

blocks at this hospital are administered by two certified registered nurse anesthetists whereas the epidurals at hospital one are not given by the anesthesia department but by the obstetricians who have to fit them into their schedule. It is the belief of many that epidurals are likely to increase cesarean and assisted deliveries, this may be why the cesarean section rate is higher at hospital two.

In answering the research questions about whether or not the feelings experienced were stressful, there were only slight differences in stress levels between the two groups (Table 2).

Instrument

Data was collected through the use of a modified version of the Berry Expectant Fathers Stress Index (BEFSI), (Appendix C). The data produced by the questionnaire were of nominal, ordinal, and interval levels of measurement.

The variables of interest for this study were:

- 1) demographics;
- 2) levels of stress of fathers during their partner's labor and delivery;
- 3) factors contributing to stress of fathers during their partner's labor and delivery;
- and 4) behaviors exhibited by fathers as a result of stress during their partner's labor and delivery.

Table 2

Stress Level Responses of Fathers at Two Hospitals

Stress Responses		
Labor Time Period	Hospital One	Hospital Two
Early	53%	46%
Peak	52%	50%
Delivery	53%	43%

Reliability

Because the fathers were asked to list words to express their feelings and concerns and the SPSS statistical program only allowed for eight spaces to code these responses, there was a need to establish reliability of the data. Data coding and reduction was done by the investigator in order to establish possible patterns of behavior and feelings of the fathers in the study. Two registered nurses with several years of labor and delivery experience then coded twenty separate questionnaires. The function of agreements was computed using the following correlation coefficient equation from Polit and Hungler (1985): total number of agreements divided by the sum of total agreements plus total disagreements. The results showed correlation coefficients of .9622 and .9754 so the coding performed by the researcher proved to be a reliable measure.

Results and Data Analysis to Related Research Questions

The research questions were developed from the variables of interest and are addressed by specific questions in the BEFSI (Appendix D). The research questions will be addressed by several tables showing the comparison of the three different time frames of labor and delivery.

Father's Stress During Labor and Delivery

The participants were asked to list feelings experienced during early labor, labor from admission to the

hospital until it reached its peak, and during the delivery of the baby. Feelings listed could either be positive, negative, or neutral. The fathers were also asked to state whether or not that feeling was stressful. Table 3 contains the negative responses listed by the fathers and the frequency and percentages of those responses. Tables 4 through 6 contain the concerns of fathers listed during labor and delivery. Positive and neutral feelings listed by fathers are shown in Tables 7 and 8 respectively. Some of the fathers didn't list any feelings or concerns at all. During early labor there was one father who listed no feelings and eight who had no concerns. There were six fathers who didn't identify any feelings during labor from admission to the hospital until labor reached its peak and 14 had no concerns during that period. During the delivery of the infant there were also six fathers who listed no feelings and 14 who listed no concerns. There is no significant pattern connecting the fathers who listed no feelings or concerns since this group included both first time and experienced fathers, prenatal class attenders and non-attenders, and young as well as older fathers.

Research question one. What is the level of stress of fathers during early labor before admission to the hospital? The frequency tables show that 48.5% of the fathers said their feelings were stressful during early labor. The mean stress score for the feelings was 3.44 on a scale from one

Table 3

Frequency Distribution of Negative Feelings Stated by
Fathers During Labor and Delivery

	Early N = 95		Peak N = 92		Delivery N = 98	
Feeling	Freq	%	Freq	%	Freq	%
Nervous	30	28.5	20	18.4	21	20.6
Scared/Afraid	23	21.9	19	17.5	20	19.6
Anxious/Anxiety	21	20	18	16.6	6	5.9
Concern/Concerned	15	14.3	19	17.5	17	16.7
Worried	12	11.4	6	6.4	10	9.8
Sleepy/Tired	6	5.7	11	10.1	-	-
Apprehensive	5	4.8	1	.92	1	.98
Unsure/Uncertain	3	2.9	2	1.9	1	.98
Fear	2	1.9	-	-	4	3.9
Urgency	2	1.9	1	.92	-	-
Doubt	1	.95	-	-	-	-
Helpless/Powerless	1	.95	11	10.1	9	8.8
Hysteria	1	.95	-	-	-	-
Impatient	1	.95	3	2.8	3	2.9
Confused/Overwhelmed	1	.95	2	1.9	3	2.9
Pain	1	.95	1	.92	-	-
Pessimistic	1	.95	1	.92	-	-
Skeptical	1	.95	2	1.9	-	-
Sorry	1	.95	2	1.9	1	.98
Sympathy	1	.95	-	-	1	.98
Tense/Restless	1	.95	3	2.8	3	2.9
Unprepared	1	.95	-	-	1	.98
Bored	-	-	2	1.9	1	.98
Frustrated	-	-	1	.92	-	-
Ignored	-	-	1	.92	-	-
Shitty	-	-	1	.92	-	-
Angry/Pissed Off/Annoyed	-	-	1	.92	2	1.9
Disappointment	-	-	1	.92	2	1.9
Sickish/Shaky	-	-	1	.92	5	4.9
Sorrow	-	-	1	.92	-	-
Paranoid	-	-	-	-	1	.98
Angst	-	-	-	-	1	.98

Frequency greater than N due to multiple responses by
 participants

Table 4

Frequency Distribution of Preadmission Concerns Stated by
Fathers During Their Partner's Labor and Delivery

	Early N = 95		Peak N = 92		Delivery N = 98	
Concern	Freq	%	Freq	%	Freq	%
Getting to hospital/ Will car run?/ Stopped by police?	15	14.3	-	-	-	-
Call Doctor	2	1.9	-	-	-	-
Dilation/contractions/ Is it real labor?	11	10.5	7	6.4	-	-
Length of labor/ Are we here too early?	15	14.3	13	12	1	.98
Will we be sent home?	-	-	-	-	-	-
labor bed available	1	.95	-	-	1	.98
Other Children/ Baby sitter	7	6.7	-	-	-	-

Table 5

Frequency Distribution of Concerns With Partner and BabyStated by Fathers

Concern	Early N = 95		Peak N = 92		Delivery N = 98	
	Freq	%	Freq	%	Freq	%
Baby's health/ well being	40	38	26	24	62	60.8
Heart rate/ respirations	-	-	-	-	5	4.9
Cone head	-	-	-	-	2	1.9
Cord around neck/head	-	-	-	-	4	3.9
Defects	-	-	-	-	4	3.9
Prematurity	-	-	-	-	1	.98
Babys gender	1	.95	-	-	5	4.9
Moms health/well being	51	48.5	41	37.7	51	50
Wifes age	1	.95	-	-	-	-
Everything OK no complications	15	14.3	7	6.4	10	9.8
Infection	-	-	-	-	1	.98
Bleeding	-	-	-	-	2	1.9
Anesthesia	-	-	-	-	2	1.9
Amniotic fluid	-	-	-	-	2	1.9
Breech/baby position	-	-	-	-	3	2.9
Forceps	-	-	-	-	2	1.9
Perineum/vaginal tear	-	-	-	-	2	1.9
Pushing	-	-	-	-	1	.98
Placenta	-	-	-	-	1	.98
C-Section fast enough	-	-	-	-	1	.98
C-Section VS normal birth	8	7.6	7	6.4	13	12.7
Recovery	-	-	-	-	1	.98

Frequency greater than N due to multiple responses by
participants

Table 6

Frequency Distribution of Other Concerns Stated by Fathers
During Their Partner's Labor and Delivery

	Early N = 95		Peak N = 92		Delivery N = 98	
Concern	Freq	%	Freq	%	Freq	%
HOSPITAL STAFF						
Competent/enough staff	-	-	1	.92	2	1.9
Too many people/strangers	-	-	-	-	2	1.9
Competent Doctor Will he get here?	3	2.9	-	-	6	5.9
SELF CONCERNS						
How can I help? Keep calm	3	2.9	3	2.8	-	-
My health	-	-	-	-	1	.98
Am I in the way? Will I faint?	-	-	-	-	1	.98
Do I have everything? Am I prepared?	4	3.8	3	2.8	-	-
School finals	1	.95	-	-	-	-
My job	2	1.9	-	-	-	-
Finances	2	1.9	1	.92	-	-
MISCELLANEOUS						
"Get sniped"	1	.95	-	-	-	-
Nothing	-	-	-	-	2	1.9

Frequency greater than N due to multiple responses by
 participants

Table 7

Frequency Distribution of Positive Feelings Stated by
Fathers During Labor and Delivery

Feeling	Early N = 95		Peak N = 92		Delivery N = 98	
	Freq	%	Freq	%	Freq	%
Elated/Excited/ Delighted/Jubilant	44	46.8	18	16.6	39	38.2
Relief/Relieved	16	15.2	3	2.8	12	11.8
Happy/Glad/Pleased/Joy	15	14.3	13	11.2	30	29.4
Calm/Content/Relaxed	3	2.9	4	3.7	1	.98
Thankful/Grateful	2	1.9	3	2.8	3	2.9
Confident	1	.95	-	-	2	1.9
Eager	1	.95	1	.92	-	-
Good	1	.95	-	-	-	-
Love	1	.95	-	-	4	3.9
Fine/OK	-	-	2	1.8	-	-
Relaxed	-	-	1	.92	-	-
Strength	-	-	1	.92	4	3.9
Important	-	-	1	.92	2	1.9
Pride	-	-	-	-	2	1.9
Awe	-	-	-	-	2	1.9

Frequency greater than N due to multiple responses by
 participants

Table 8

Frequency Distribution of Neutral Feelings Stated by
Fathers During Labor and Delivery

	Early N = 95		Peak N = 92		Delivery N = 98	
Feeling	Freq	%	Freq	%	Freq	%
Curious	2	1.9	2	1.8	3	.9
Dilatation	2	1.9	-	-	-	-
Business Like	1	.95	-	-	-	-
Emotional	1	.95	-	-	3	2.9
Finally	1	.95	1	.92	-	-
Natural	1	.95	-	-	-	-
Prayerful	1	.95	-	-	-	-
Surprise	1	.95	-	-	-	-
Thoughtful	1	.95	-	-	-	-
Hungry	-	-	2	1.8	-	-
Sales Pitch	-	-	1	.92	-	-
Humility/Humble	-	-	1	.92	1	.98
Observant	-	-	1	.92	-	-
Interested	-	-	-	-	2	1.9
Teachable/Willing	-	-	-	-	1	.98
Reverence	-	-	-	-	1	.98
Involved	-	-	-	-	1	.98

to five, with one being "not very much" and five being "a great deal" (Table 9). The mean concern score on the same scale was 3.3. The intensity ratings of the feelings are shown in Table 10. The four and five ratings account for 62.2% of the scores. The concern intensity scores for both four and five ratings combined total 67.9% of the sample (Table 11). Although the feelings listed are positive as well as negative, the assumption that the level of stress is fairly high during labor and delivery is made due to the fact that birth and parenthood is a major life event that causes stress.

Research question two. What is the level of stress of fathers from admission to the hospital until labor reached its peak? The mean stress score of fathers for their feelings during peak labor was 3.27 and 2.71 for concerns. The intensity of concerns was quite high with a total percentage of four and five scores being 76.9%. The feelings listed by fathers were fairly intense, 78.8% were the four and five ratings combined.

Research question three. What is the level of stress of fathers during the delivery of the infant? The mean concern rating of fathers during delivery was 3.46 and 3.88 for the feelings. The four and five intensity ratings during this same time frame was 81.4% for concerns and 82% for feelings.

Table 9

Comparison of Mean Scores of Feelings and Concerns Stated by
Fathers During Labor and Delivery (N = 102)

<u>Labor Time Period</u>	<u>Mean Scores</u>	
	<u>Feelings</u>	<u>Concerns</u>
Early	3.44	3.30
Peak	3.27	2.71
Delivery	3.88	3.46

Table 10

Comparison of Percentages of Intensity of Father's Feelings
During Their Partner's Labor and Delivery

Labor Stage	Intensity Rating				
	1	2	3	4	5
Early	2.1	10.8	25.6	29	33.5
Peak	.3	3.0	18.2	38	41
Delivery	1.2	2.5	12.9	24.8	57.2

Table 11

Comparison of Percentages of Intensity of Father's Concerns
During Their Partner's Labor and Delivery

Labor Stage	Intensity Rating				
	1	2	3	4	5
Early	3.8	8.7	19.6	26.1	41.8
Peak	.7	2.6	19.8	32.3	44.6
Delivery	1.9	2.0	14.7	27.7	53.7

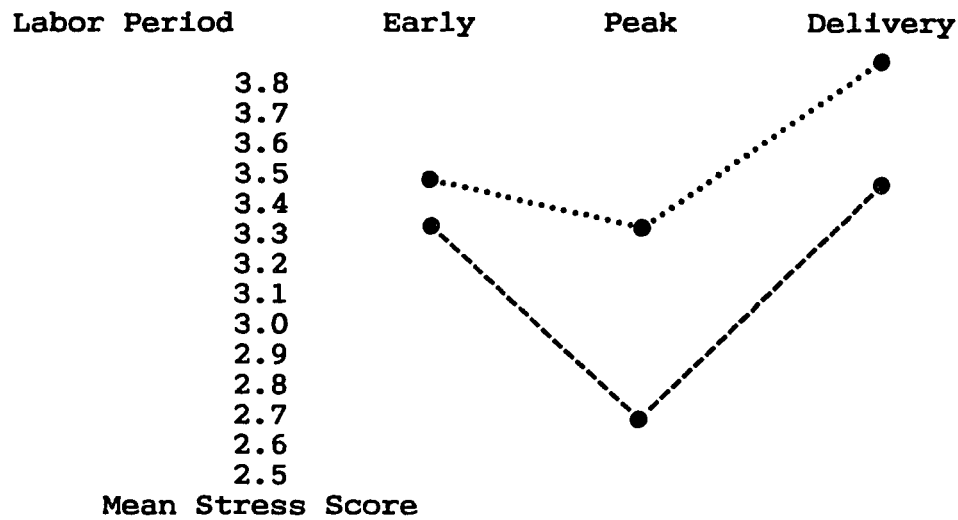
Differentiation of Levels of Stress Between Early Labor,
Labor at its Peak, and Delivery of the Infant

Fathers were asked to list feelings and concerns for all three time frames of labor and delivery so that they could be compared to each other.

Research question four. Can the levels of stress be differentiated between the stages of labor? Although the MANOVA showed no significance, there is a difference in levels of stress from one stage of labor to the next as shown from the previous mean scores (Tables 9-11). The mean scores for feelings and concerns decrease in the peak labor time period from early labor but increase to its highest level during delivery. The intensity levels for feelings and concerns increase as labor progresses, however there is not a large difference between the three time periods. There is a bigger jump in intensity of feelings from early labor to peak labor than there is from peak labor to delivery, the same difference applies to the mean scores. Even though the peak labor scores are the lowest, they are closer to the early labor scores than they are to the delivery scores (Table 12). From this the conclusion can be made that delivery is the time of greatest concern and intensity of feelings for expectant fathers as expressed in level of stress scores.

Table 12

Plot of Fathers' Feelings and Concerns During Labor and Delivery



Feelings.....
Concerns-----

Factors Contributing to Father's Stress During Their
Partner's Labor and Delivery

The fathers' stress levels as dependent variables in all three time frames of labor and delivery were compared to many independent variables for a relationship using chi square, Kendalls tau, and MANOVA statistics analyses. The independent variables tested for a relationship with stress were prenatal class attendance, marital status, education level, religion, depth of faith, race, type of delivery, type of pain relief, whether anyone besides hospital personnel was with the couple during labor and delivery, did the father leave the labor room, length of time the father was out of the labor room, father's age, mother's age, which child for father and for mother, years couple together, and total hours in labor. The assumptions were met for the MANOVA test with all variables except the following: labor hours with feelings, was anyone with father in labor with early labor feelings, was anyone with father in delivery with delivery feelings, and did the father leave with early and delivery feelings.

Research question five. What specific variables contribute to father's stress during their partner's labor and delivery? The Chi square statistic was used to test association between categorical or nominal variables and Kendalls Tau was used to test association using the other levels of measurement. With a level of significance set at

.05 there were no relationships shown between the dependent and independent variables. The closest possible significance value was .05986 which was shown between the variable of whether or not the father left the delivery room and his rating of his feelings during delivery. The researcher feels that this is a chance relationship since it is the only correlation shown using a Kendalls Tau statistic.

It was felt by the researcher, and the review of literature showed that fathers having their first baby would probably experience more stress than fathers who have already had children. A MANOVA was run to test this assumption, the results are shown in Table 13. For all three time frames under study, mean scores for feelings and concerns were less for fathers who were not having their first baby as well as for fathers whose partner was not having her first baby (Table 14).

The F statistic of .51 for the father sample and 1.11 for the mother sample shows that there is no significance of these relationships, however inferences can still be made from the mean scores. In all instances the scores decreased somewhat for fathers not having a first child as well as for mothers not having her first child.

Three other variables compared for significance with stress levels were depth of religious faith, education, and years the couple had been together, Table 15 shows the

Table 13

Mean Stress Scores of First Time Fathers Compared
With Fathers Who Have Already Had a Child

	First Baby N=31	Multiple Baby N=71
EARLY		
Feelings	3.68	3.34
Concerns	3.63	3.15
PEAK		
Feelings	3.78	3.05
Concerns	2.90	2.62
DELIVERY		
Feelings	4.14	3.77
Concerns	3.71	3.35

Table 14

Mean Stress Scores of Fathers Whose Partner was Having Her
First Baby Compared With Those Who Have Already Had a Child

	First Baby N=31	Multiple Baby N=71
EARLY		
Feelings	3.63	3.36
Concerns	3.70	3.12
PEAK		
Feelings	3.93	3.00
Concerns	3.07	2.55
DELIVERY		
Feelings	4.29	3.71
Concerns	3.79	3.32

Table 15

Mean Stress Scores of Fathers For: Depth of Faith,
Education, and Years Together

	Feelings	Concerns
Faith F = 1.81		
Very Religious N = 56	3.54	3.15
Average N = 33	3.66	3.34
Not Religious N = 11	3.16	3.63
Education F = 2.05		
Some High School N = 4	3.23	3.02
High School Grad N = 21	3.28	2.75
College, Trade, Grad N = 77	3.59	3.18
Years Together F = .85		
Less than 5 N = 59	3.67	3.33
6 to 10 N = 25	3.48	3.00
Greater than 10 N = 18	3.16	2.82

results. Although the differences are not very large and the F statistics show no relationships there are some changes in levels of stress associated with these variables.

Feelings and concerns have the highest means for those fathers who rated themselves as average in depth of religious faith. Those who were "not very religious" had the lowest mean stress scores. The fathers who had attended some college, trade school, or graduate school had the highest stress scores for both feelings and concerns. The stress scores for years the couple had been together decreased as the number of years increased.

Table 16 compares the father's age and the mother's age with levels of stress. Again the F scores show no relationship for these variables and the mean scores are fairly close except for concerns associated with mothers age, this is most likely a chance occurrence.

Another set of variables tested for a relationship with stress of fathers was whether or not anyone besides hospital personnel was with the couple during labor and delivery, and whether or not the father left the labor room. Table 17 displays the results. By examining the mean scores it shows that it was more stressful for the father to have someone with him during labor but the same is not true for delivery. The stress scores were less for fathers who did not leave the labor room. The F statistics for these variables showed no significance.

Table 16

Mean Stress Scores of Fathers For: Father's Age and
Mother's Age

		Feelings	Concerns
Father's Age	F = .91	-	-
< 18 Years	N = 0		
19 to 34 Years	N = 83	3.18	3.34
> 34 Years	N = 10	3.00	3.23
Mother's Age	F = .69		
< 18 Years	N = 6	3.86	3.60
19 to 34 Years	N = 86	3.52	3.16
> 34 Years	N = 10	3.46	2.82

Table 17

Mean Stress Scores of Fathers For: Anyone Besides Hospital
Personnel In Labor and Delivery and Did the Father Leave the
Labor Room

		Feelings	Concerns
Anyone Else in Labor?			
	F = .53		
Yes	N = 25	4.06	3.67
No	N = 58	3.72	3.28
Anyone Else in Delivery?			
	F = .81		
Yes	N = 26	3.97	3.89
No	N = 62	4.16	3.68
Did the Father leave?			
	F = 1.93		
Yes	N = 55	3.92	3.57
No	N = 29	3.71	3.19

The last four variables tested for a relationship with fathers stress using MANOVA are listed in Table 18. The last two, type of delivery and prenatal class attendance are the only two that show significance using the F statistic. Stress for fathers seems to be highest for an assisted vaginal delivery and lowest with a cesarean section. Attendance at a prenatal class seems to have an effect on fathers stress by lowering it.

Behaviors Exhibited by Fathers In Relation to Stress During Their Partner's Labor and Delivery

There were seven questions asked to determine what fathers do during the labor and delivery experience. Table 19 lists the frequency of their responses during the three different time periods.

Research question six. What behaviors do fathers exhibit in relation to stress during their partner's labor and delivery? A large percentage of the fathers (66%) said they left the labor room, Table 20 lists frequencies of specific behaviors of fathers upon leaving the labor room and Table 21 shows how long the fathers were gone from the room. Two questions asked the fathers to answer "yes" or "no" to physical symptoms exhibited during labor, these are shown in Table 22.

Table 18

Mean Stress Scores of Fathers For: Pain Relief, Hours In Labor, Type of Delivery, and Prenatal Class Attendance

		Feelings	Concerns
Pain Relief	F = 2.96		
None/Unknown	N = 11	3.54	3.19
IV/Pudendal/ Paracervical	N = 14	3.42	3.10
Epidural	N = 61	3.48	3.07
Hours In Labor	F = .71		
1 to 10	N = 51	3.57	3.26
11 to 20	N = 31	3.70	3.15
21 and greater	N = 10	4.20	3.65
Delivery Type	F = 3.48		
Vaginal	N = 64	3.55	3.07
Assisted	N = 14	4.14	4.08
Cesarean	N = 23	3.14	2.86
Prenatal Class Attendance	F = 3.73		
Yes	N = 50	2.98	3.12
No	N = 52	3.83	4.09

Table 19

Frequency of Father's Behaviors in Response to Feelings and
Concerns During Their Partner's Labor and Delivery

Behavior	Early N = 95		Peak N = 92		Delivery N = 98	
	Freq	%	Freq	%	Freq	%
Accepted	3	2.9	-	-	-	-
Bit nails	1	.95	-	-	-	-
Talked	5	4.8	12	11	8	7.8
Kept busy	3	2.9	-	-	-	-
Help calm wife	11	10.5	10	9.2	16	15.7
Held hand/touch	2	1.9	4	3.7	3	2.9
Focus/concentrate	2	1.9	2	1.8	1	.98
Went about routine	1	.95	-	-	-	-
Drove to hosp	4	3.8	-	-	-	-
Talked to self	2	1.9	-	-	2	2
Trusted the Lord/ positive thoughts	6	5.7	1	.92	1	.98
Forget them	2	1.9	-	-	-	-
Held them in/hid them	4	3.6	5	4.6	3	2.9
Stayed calm	2	1.9	1	.92	3	2.9
Stayed busy	2	1.9	-	-	-	-
Slept	1	.95	2	1.8	-	-
Ate	1	.95	1	.92	-	-
Watched television	3	2.9	3	2.8	1	.98
Read	1	.95	2	1.8	-	-
Rest/Relax	3	2.9	1	.92	1	.98
Released	1	.95	-	-	2	2
Prayed	2	1.9	5	4.6	7	6.9
Played cards	-	-	1	.92	-	-
Smiled/humor	4	3.6	-	-	-	-
Took care of other children	1	.95	-	-	-	-
Wait	1	.95	1	.92	1	.98
Enjoy	-	-	-	-	-	-
Watched fetal monitor	-	-	5	4.6	2	2
Lived with them/ dealt with them	-	-	2	1.8	-	-
"Get real"	-	-	1	.92	-	-
Got angry	-	-	-	-	1	.98
Get Nurse	-	-	1	.92	-	-
Left room/walked	1	.95	4	3.7	1	.98
Watched/quiet	-	-	1	.92	5	4.9
Nothing	15	14.3	10	9.2	12	11.8

Frequency greater than N due to multiple responses by
participants

Table 20

Actions of Fathers Upon Leaving the Labor Room During Labor
at Its Peak

Action	Percent
Eat	41.9
Go to Bathroom	47.5
Go outside	13.1
Smoke	6.6
Read	6.6
Talk to nurses	16.4
Talk to doctor	8.2
Use the phone	16.4
Go home	18
Other	29

Table 21

Length of Time Fathers Were Out of the Labor Room

<u>Length of Time</u>	<u>Percent</u>
less than 15 minutes	49.1
16 to 30 minutes	29.8
31 to 60 minutes	10.5
1 to 2 hours	8.8
more than 2 hours	1.8

Table 22

Frequency and Percents of Physical Symptoms Experienced by
Fathers During Their Partner's Labor

Symptom	Early N = 95		Peak N = 92	
	Freq	%	Freq	%
Nausea	8	7.8	9	8.8
Backache	5	4.9	6	5.9
Vomiting	-	-	-	-
Diarrhea	7	6.9	5	4.9
Heartburn	7	6.9	3	2.9
Indigestion	8	8.8	6	5.9
Increased appetite	18	17.6	10	9.8
Decreased appetite	12	11.8	5	4.9
Toothache	3	2.9	-	-
Frequency of urination	12	11.8	7	6.9
Dizzy spells	5	4.9	3	2.9
Increased perspiration	13	12.7	9	8.8
None	38	37.3	44	43.1
Other	14	13.7	10	9.8

Frequency greater than N due to multiple responses by
participants

Chapter V

DISCUSSION

Stressors To Fathers During Their Partner's Labor and Delivery

The results of this study suggest that there were several stressors experienced by fathers during their partner's labor and delivery. The most common negative feelings listed by fathers for all three time frames of labor and delivery were nervous, scared and afraid, anxious, concern, and worry. These feelings are congruent with those identified by Osofsky et al. (1985) where fathers expressed feelings described as strange, worried, and overwhelmed. In Leonard's (1977) study men frequently described labor as a time of helplessness, 21 of the men in this study also identified that feeling. This is further supported by Shannon-Babitz (1979) where the fathers talked openly about feelings and described themselves as anxious and apprehensive. Many fathers also felt worried, frightened, helpless, and powerless. Some of the adjectives used to describe the labor and delivery experience in a study by Phillips and Anazalone (1978) that were also listed by fathers in this study were anxiety, frustration, anger, and powerless. Anger was identified as a feeling in this study as well as in the study by Leonard (1977).

The many concerns of fathers in this study are the same as many previously identified. Peterson, Mehl, and Leiderman (1979) found that a number of concerns felt during the pregnancy are also seen during labor and delivery. Many fathers question their abilities to offer support to their partners during this time, six of the fathers in this study questioned "can I help?". In both studies they questioned whether or not they are prepared to be a father. The areas of greatest concern to fathers were the well being and health of both the mother and baby and the worry about possible complications, this is also supported by Peterson et al. (1979). Three concerns listed by May (1984) were financial security, anxiety about labor and delivery, and the condition of damage to the fetus and his wife. In this study finances were listed three times, fetal well being 128 times, and maternal well being 143 times. Fathers worried about complications 32 times with many specific complications such as fetal deformities, maternal bleeding, and anesthesia which was mentioned 33 times. Colman and Colman (1973) further supported these findings. Fathers in their study felt some degree of anxiety over the safety of his spouse and child, the financial burden, and his role during labor and delivery. All of the concerns listed by Glazers (1989) study were those also identified in this study: the fathers role in labor and delivery; concern about care given by the nurses, doctors, and midwives;

concern about their partner's pain; unexpected things occurring in labor and delivery; labor complications; and experiencing the type of birth desired. The present study had cesarean section versus a normal birth listed as a concern 28 times. In the present study the father's concerns seemed to change focus from self concerns in early labor such as school finals and his job to a general concern for his wife and baby during delivery. Concerns found by Berry (1988) were also similar to those of fathers in this study such as their abilities as a coach, wanting to be helpful while trying to hide their feelings, and wondering if they could cope. Some concerns listed frequently in this study not previously found were the question of whether or not his partner was in real labor, were they going to the hospital too soon, and would they be sent home.

The positive feelings identified by this study are very similar to those identified in earlier research. The most common positive feeling listed was a general feeling of excitement that also included elated, delighted, and jubilant with a frequency of 101 for all of these combined, pride was listed twice during the delivery time period. Osofsky et al. (1985) identified pride and excitement as a feeling of a man about the pregnancy of his partner. Osofsky (1982) noted that fathers feel proud and excited after the birth. The positive feelings of this study were listed more frequently during the delivery of the infant.

Levels of Father's Stress

During early labor before admission to the hospital, 48.45% of the fathers felt stressed, it increased by 2.68% for the second time period then dropped to 38.48% during the delivery. These numbers support findings by Leonard (1977) who shows that fathers viewed delivery as a slightly more positive experience than labor. Although the numbers don't show an increase in stress from early labor through delivery, there is an increase in intensity of those feelings. Concerns got progressively worse as time went on peaked during delivery, these findings lend support to the research by Berry (1988). For concern ratings four and five combined meaning "a great deal of stress" there were 62.2% of the participants who marked this rating in early labor, 76.9% did so for labor at its peak and 81.4% during the delivery of the infant.

Factors Contributing to Stress

In a study by Cronenwett and Newmark (1974) it was shown that fathers who attended childbirth preparation classes rated their overall experience more positively than non attenders. Chalmers (1982) also proposed that the attendance at childbirth education classes was a good method to reduce anxiety during labor. This study showed no relationship between attendance before classes with levels of stress using the chi square analysis but the MANOVA

analysis showed that there was less stress for those fathers who had attended a prenatal class.

Osofsky et al. (1985) in a compilation of many works felt that many factors such as age and degree of religious background were important factors in the fathers' adjustment to parenthood. These two variables as well as many others in the present study showed no relationship with stress of fathers during their partner's labor and delivery. However because the fathers ratings of feelings were for positive and negative feelings combined, the scores are not a true reflection of stress and cannot be completely differentiated.

Another variable in this study that seemed to show a relationship with stress was type of delivery. The partners of women who had an assisted delivery seemed to have the greatest amount of stress, whereas the lowest stress correlated with type of delivery was for cesarean delivery, there were no findings in the review of literature to support this.

Behaviors of Fathers During Their Partner's Labor and Delivery

In a review of literature by Connor and Denson (1990), they supported the premise that couvade or the over identification with ones symptoms to the point of feeling those symptoms exists. Shannon-Babitz's (1979) study also discusses the existence of the couvade syndrome because some

men would over identify with their pregnant wives. There were many physical symptoms experienced by the participants in this study, the most being increased appetite (27.4%). The next most common symptoms were increased perspiration (21.5%), frequency of urination (18.9%), then decreased appetite (17.7%). There were 23.5 percent who said "other" but those symptoms were not specified by the father. There was about 37 percent of the sample who said they experienced no physical symptoms during early labor and 43 percent who said they felt none during the peak time period, so over half of the fathers did experience one or more physical symptoms, one participant said he experienced at least nine of them. This does not mean that couvade exists but it does show that fathers are reacting to something, possibly stress.

A large percentage of the fathers (66) did leave the labor room but most of them left for short periods of time. Their most common actions upon leaving were to address their physical symptoms, 47.5 percent went to the bathroom and nearly 42 percent got something to eat.

Implications for Nursing Practice

Much can be learned by nurses as a result of this study which completed the assessment portion of the nursing process. Nurses must recognize that many fathers experience stress which is caused by inputs from both within and without the individual. The nurses must individualize each

labor and delivery situation and address not only the focal stimuli to the father, which are obvious, but the contextual and residual stimuli which also affect coping. The behaviors exhibited should be judged on the effectiveness of reaching adaptive goals. Once this is done, the nurse can make a diagnosis, set goals, and intervene to help fathers adapt in one of the four different modes set forth by Roy.

A percentage of the fathers said that they talked to the nurse when they left the labor room, they also listed things that were said and done during their partner's labor and delivery that were helpful. This provides great opportunity for the nurse to tap into the cognator subsystem of coping and provide information to allay fathers fears regarding their many feelings and concerns especially as stress increases as labor progresses. There are ample opportunities throughout labor and delivery for the nurse to provide continued support as the father goes through the interdependence mode. Chalmers (1982) supports this by saying that support systems need not only be present but effective in their nature. There are some physical manifestations by fathers such as increased appetite and backache that if addressed may be alleviated and free up energy to concentrate on more important factors. If nurses exert some control over the environment and do things such as offer snacks and breaks from the labor room the father may feel less stressed.

A very important aspect of nursing is education. This study did lend support to the relationship between childbirth preparation classes and decreased stress during labor and delivery. Other studies such as that of McLaughlin and Taubenheim (1983) also support this relationship. The fathers in this study noted that knowledge about what was happening was beneficial to them. Not only is education important prior to the onset of labor, it is vital during labor and delivery as attested to by many fathers in the study who said that it was helpful to have the nurse and other staff members answer questions. This education process helps fathers acquire more coping mechanisms and identify their role in the process which in turn affects the self concept mode. Nicholson, Gist, Klein, and Standley (1983) say that active father participation in labor may facilitate integration of the childbirth experience and promote self esteem. If self esteem needs are met, individual adaptation occurs and the overall goal of personal and family integrity and mastery is achieved.

Future Nursing Implications

The following recommendations should be considered for future research:

1. Reconstruct the questionnaire so positive feelings can be more easily differentiated from negative and stressful feelings. This will allow for findings to become more quantifiable, thus more meaningful.

2. Conduct a study on a larger random sample so that the results can be generalized to the population. This allows nurses to integrate the findings into their practice in order to help the family unit adjust to change.

3. Conduct a study of more of a quantitative nature to further explore relationships between the variables.

This study just described findings, whereas such findings need to be put into measurable statistical methods in order to make a stronger case for the effect that father's stress has on the labor and delivery process and family adaptation.

4. Conduct a study that takes into consideration maternal risk factors on father's stress as this was not addressed and can play a significant role in father's stress levels.

5. Make more of a differentiation in levels of stress between type of delivery. Some fathers in this study could not complete all sections of the study because their partners had a scheduled labor induction or cesarean section. As supported by this study, type of delivery makes a difference to fathers stress responses, therefore it is important to identify these differences.

APPENDICES

Appendix A
Consent Form

November 16, 1991

Dear Father,

In working closely with new parents during childbirth, I have recognized that fathers have some important needs at this time. As a registered nurse and graduate student, I am exploring specific stressors to fathers during labor and delivery.

The enclosed questionnaire has been given to you as part of an approved study sampling fathers. By answering these questions as honestly and candidly as possible, you will assist me in understanding your specific experiences and concerns regarding your partner's labor and delivery.

The accuracy of the survey and the worth of its findings are dependent upon your willingness to answer all questions. It should take you approximately 20 minutes to complete the attached questionnaire. If you wish to see the results of this study, please contact me at the address below.

Finally, please be assured of the confidentiality of this survey. Your answers will not be linked to your name and the information obtained will only be used in combination with those of other survey participants to form grouped data.

Your completion of the questionnaire indicates your willingness to participate in this study. I hope that you will find it interesting to answer and that you will complete it, seal it in the envelope provided, and deposit it in the box provided at the nurses station while your partner is still in the hospital.

Thank you very much for your cooperation,

Sincerely,



DeAnn R. Brown, R.N.C., B.S.N.
Department of Nursing
University of Nevada, Las Vegas
4505 Maryland Parkway
Las Vegas, NV 89154

I, LINDA BERRY, holder of copyright on material
entitled THE STRESS RESPONSES OF FIRST-TIME FATHERS
~~DURING THEIR SPOUSE'S LABOUR & DELIVERY~~
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Date:

Sept 30, 1991

Name (typed):

LINDA BERRY

Title:

ASSISTANT PROFESSOR

Representing:

DALHOUSIE UNIVERSITY

The Graduate College
University of Nevada, Las Vegas
4505 Maryland Parkway
Las Vegas, Nevada 89154

Appendix C

Modified Berry Expectant Fathers Stress Index

INSTRUCTIONS

The questionnaire is divided into four sections which contain questions:

- Section I pertaining to you personally;
- Section II about when your partner started in labor; that is, when contractions first began;
- Section III about the time of your partner's admission to the hospital and labor reached its peak (transition); until just before the delivery of the baby;
- Section IV which relate to the actual delivery of the baby.

TO RETURN THE COMPLETED QUESTIONNAIRE:

PLEASE DEPOSIT THE COMPLETED QUESTIONNAIRE IN THE ENVELOPE PROVIDED, AND PLACE IT IN THE BOX LOCATED AT THE NURSES STATION.

Section I - Personal Data

Section I contains questions 1-17. These questions pertain to you personally. Please answer each question in the space provided.

1. How old are you? _____
2. How old is your partner? _____
3. Did you attend preparation for childbirth education classes? Yes_____ No_____

If your answer is no proceed to question 6.

4. Which classes did you attend?
Valley View Medical Center_____
Dixie Regional Medical Center_____

5. What portion of the classes did you attend?
All of them_____ About half of them_____
More than half of them_____ Less than half of them_____
6. Are you married? Yes_____ No_____
7. How many years have you been married or with your partner? _____
8. What level of education have you completed?
Some high school_____ Some college or trade school_____
College_____ Graduate school_____
9. Which of the following describes your religious preference? Catholic_____ Jewish_____
LDS_____ Protestant_____
Other, please specify_____
No religious belief_____
10. How would you describe the depth of your religious faith? Very religious_____ Average_____
Not very religious_____
11. Which of the following describes your race?
American Indian_____ Asian_____ Black_____
Caucasian/White_____ Hispanic_____ Oriental_____
12. How many hours ago was your baby delivered?
less than one_____ 1-2_____ 3-10_____
11-15_____ 16-24_____ 25-36_____ 37-48_____
13. Have you discussed your experience during labor and delivery with your partner prior to completing the questionnaire? Yes_____ No_____
14. What baby is this for YOU? 1st_____ 2nd_____ 3rd_____
4th_____ Other, please specify_____
15. What baby is this for your PARTNER? 1st_____ 2nd_____
3rd_____ 4th_____ Other, please specify_____
16. How was your baby delivered? Vaginal_____
Vaginal with forceps or vacuum extractor_____
Cesarean section_____
17. What type of pain relief did your partner receive during labor and delivery? (Check all that apply)
None_____ Unknown_____ IV medication (Demerol, Diluadid, Stadol)_____
Epidural_____
Paracervical/Pudendal block_____ local_____

Section II - The Beginning of Labor

Section II contains questions 18-26. These questions pertain to your partner's early labor at home; that is, when contractions first began and you realized that your partner had started into labor. Please answer each question in the space(s) provided.

18. When did your partner's labor start?
Date:_____ Time:_____
19. Were you with your partner when her labor started?
Yes_____ No_____
20. Did you accompany your partner to the hospital?
Yes_____ No_____ If no, When did you join your partner at the hospital? Date:_____ Time:_____
21. How many hours (total) was your partner in labor?
_____ hours

Some of the questions which follow ask you to list your feeling/concerns and helpful actions on the left hand side of the paper, and then rate them on the right hand side of the paper. To rate on the line provided, think of "Not very much" as 0, and "A great deal" as 5. Your mark on the line indicates your rating. For example, if you list "scared" as a feeling, and you felt very scared, it would look like this:

FEELING		RATING
<u>scared</u>	not very much	<u>5</u> a great deal
		1 2 3 4 5

Was this feeling stressful to you? Yes_____ No_____

If you were only a little scared it would look like this:

Not very much	<u>1</u>	2	3	4	5	a great deal
---------------	----------	---	---	---	---	--------------

22. When you realized your partner had started in labor, how did you feel? Please list your feelings on the left, and rate each one on the right of this page.

FEELINGS

RATING

1. _____ not very much _____ a great deal
 Was this feeling stressful to you? Yes _____ No _____
 1 2 3 4 5
2. _____ not very much _____ a great deal
 Was this feeling stressful to you? Yes _____ No _____
 1 2 3 4 5
3. _____ not very much _____ a great deal
 Was this feeling stressful to you? Yes _____ No _____
 1 2 3 4 5
4. _____ not very much _____ a great deal
 1 2 3 4 5

23. What were your concerns when you realized your partner had started in labor? Please list the concerns on the left, and rate them on the right of the page.

CONCERNS

RATING

1. _____ not very much _____ a great deal
 1 2 3 4 5
2. _____ not very much _____ a great deal
 1 2 3 4 5
3. _____ not very much _____ a great deal
 1 2 3 4 5

24. What did you do about your feeling/concerns at the beginning of labor? _____

25. Some men have experienced physical symptoms at the beginning of their partner's labor: Below is a list of such reported symptoms, please indicate below whether you experienced any of the symptoms listed by using check marks.

nausea _____ backache _____ vomiting _____ diarrhea _____
 heartburn _____ indigestion _____
 increased appetite _____ decreased appetite _____
 toothache _____ frequency of urination _____
 dizzy spells _____ increased perspiration _____
 None _____ Other, please specify _____

26. At the beginning of labor before your partner came to the hospital, please list what was said or done by you or someone else which helped to ease your feelings/concerns or physical discomfort. Please indicate who did it, and how helpful you would rate it to be.

What was said or done? Who did this?

1. _____

How helpful would you rate it?

Not very much _____ a great deal
1 2 3 4 5

2. _____

How helpful would you rate it?

Not very much _____ a great deal
1 2 3 4 5

Section III - Early Labor in the Hospital

Section III contains questions 27-36. These questions refer to the period from your partner's admission to the hospital and labor reached its peak (transition) until just before the delivery of the baby. Please answer each question in the space(s) provided.

27. How did YOU feel during your partner's early labor in the hospital? Please list your feelings on the left, and rate each one on the right hand side of the page.

FEELINGS

RATING

1. _____ Not very much _____ a great deal
1 2 3 4 5

Was this feeling stressful to you? Yes____ No____

2. _____ Not very much _____ a great deal
1 2 3 4 5

Was this feeling stressful to you? Yes____ No____

3. _____ Not very much 1 2 3 4 5 a great deal

Was this feeling stressful to you? Yes____ No____

4. _____ Not very much 1 2 3 4 5 a great deal

Was this feeling stressful to you? Yes____ No____

28. What were your concerns during your partner's early labor in the hospital? Please list your concerns on the left, and rate each one on the right hand side of the page.

CONCERNS

RATING

1. _____ Not very much 1 2 3 4 5 a great deal

2. _____ Not very much 1 2 3 4 5 a great deal

29. What did you do about your feelings/concerns during your partners's early labor in the hospital?

30. Some men have experienced physical symptoms during their partner's early labor. Below is a list of such reported symptoms, please indicate whether you have experienced any of the physical symptoms during your partner's early labor in the hospital by using check marks in the appropriate boxes.

nausea____ backache____ vomiting____ diarrhea____
 heartburn____ indigestion____
 increased appetite____ decreased appetite____
 toothache____ frequency of urination____
 dizzy spells____ increased perspiration____
 none____ Other, please specify_____

31. Who else besides the hospital personnel was with you and your partner in the labor room?_____

32. During this period of early labor in the hospital, please list what was said or done by you or someone else which helped to ease your feelings/concerns or physical discomfort. Please indicate who did it, and how helpful you would rate it to be.

What was said or done? Who did this?

1. _____

How helpful would you rate it?

Not very much a great deal
1 2 3 4 5

2. _____

How helpful would you rate it?

Not very much a great deal
1 2 3 4 5

3. _____

How helpful would you rate it?

Not very much a great deal
1 2 3 4 5

4. _____

How helpful would you rate it?

Not very much a great deal
1 2 3 4 5

33. Was anyone else, besides the hospital personnel with you and your partner during early labor?
Yes _____ No _____ If your answer is NO, proceed to question 34.

Who was with you during your partner's early labor? _____

34. Did you leave the labor room during your partner's early labor? Yes _____ No _____

If your answer is NO, proceed to section IV.

eat_____ go to the bathroom_____ go outside_____
smoke a cigarette_____ read_____
talk to the nursing staff_____
talk to the physician_____ use the phone_____
go home_____ other, please specify _____

- #### Section IV - The Delivery of the Baby

37. Was anyone else besides the hospital personnel with you and your partner during delivery? Yes _____ No _____

38. Who was with you during your partner's delivery? _____

- ## FEELINGS

RATING

1. _____ Not very much 1 2 3 4 5 a great deal

Was this feeling stressful to you? Yes_____ No_____

2. _____ Not very much 1 2 3 4 5 a great deal

Was this feeling stressful to you? Yes_____ No_____

3. _____ Not very much 1 2 3 4 5 a great deal

Was this feeling stressful to you? Yes_____ No_____

Was this feeling stressful to you? Yes____ No____

CONCERNS		RATING								
1.	_____	not	very	much	1	2	3	4	5	a great deal
2.	_____	not	very	much	1	2	3	4	5	a great deal
3.	_____	not	very	much	1	2	3	4	5	a great deal
4.	_____	not	very	much	1	2	3	4	5	a great deal

42. While your baby was being delivered, what was said or done by you or someone else which may have eased your feelings/concerns or physical discomfort. Please indicate who did it, and how helpful you would rate it to be.

1. _____

Not very much _____ a great deal
1 2 3 4 5

2. _____

Not very much _____ a great deal
1 2 3 4 5

3. _____

How helpful would you rate it?

Not very much _____ a great deal
1 2 3 4 5

4. _____

How helpful would you rate it?

Not very much _____ a great deal
1 2 3 4 5

43. This concludes the questionnaire. If there are comments you would like to make in addition to the answers you have already given, please do so below.

Thank you for participating in this study. Please place your completed questionnaire in the specified box at the nurses station.

Appendix D

Research Questions Correlated to Instrument Questions

Research question one: What is the level of stress of fathers during early labor? Analyzed by BEFSI question 22.

Research question two: What is the level of stress of fathers during labor at its peak? Analyzed by BEFSI question 27.

Research question three: What is the level of stress of fathers during the delivery of the baby? Analyzed by BEFSI question 39.

Research question four: Can the levels of stress be differentiated between between the stages of labor? Analyzed by BEFSI questions 22, 27, and 39.

Research question five: What specific variables contribute to fathers stress during their partners labor and delivery? Analyzed by BEFSI questions 1 through 21, 23, 26, 28, 31 through 33, 37, 38, 40, and 42.

Research question six: What behaviors do fathers exhibit in relation to stress during their partners labor and delivery? Analyzed by BEFSI questions 24, 25, 29, 30, 34 through 36, and 41.

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