Objective: To study the experiences and needs of the fathers of very low birth weight (VLBW, <1500 g) infants in a neonatal intensive care unit (NICU). Study Design: An anonymous self-report questionnaire was administered to fathers of VLBW infants born between Jan 1, 2008 and December 31, 2009 at two tertiary NICUs. Result: A total of 111 of 273 fathers responded to the questionnaire. Responses to a variety of items, including self-perception, parenting attitudes, confidence, emotional pressure to satisfaction and self-efficacy as a parent were similar for the fathers of this survey and previous results for mothers of VLBW infants. Fathers judged direct bedside support by the NICU team as sufficient. However, 54.4% of fathers reported missing nonbedside interventions such as VLBW father-specific baby care courses, seminars or workshops, and platforms or chatrooms on the internet. Conclusion: Bedside support of fathers, accomplished by the NICU team, could be complemented by additional father-specific non-bedside support, such as peer-education measures or interactive mass media.

Aim The aim of this study was to explore the lived experiences of fathers of a premature baby on a Neonatal Intensive Care Unit and also to raise awareness amongst healthcare professionals in relation to the needs of fathers whose infants are cared for in the NICU. Methods A qualitative phenomenological approach was chosen for the study and five fathers participated and were interviewed. Data analysis was based on the work of Van Manen (1990) who devised a six step approach to assist with analysis within phenomenological inquiry. Results The findings of the study indicate that the experiences of fathers of premature babies in the Neonatal Intensive Care Unit are diverse and complex. Having a premature baby in the NICU instigates a multitude of experiences for fathers. Conclusion In highlighting the experiences of fathers, this study raises awareness of the need for healthcare professionals to consider the unique perspective of fathers in the context of the NICU.

The purpose of this pilot study was to describe the experiences, support needs, resources, and barriers to support for fathers whose partners had post-partum depression (PPD) in preparation for a larger study. Qualitative methods and community-based research approaches were used in this exploratory/descriptive multi-site study, conducted in New Brunswick and Alberta. Telephone interviews were conducted with a total of 11 fathers in New Brunswick (n= 7) and Alberta (n= 4). Fathers experienced a number of depressive symptoms including: anxiety, lack of time and energy, irritability, feeling sad or down, changes in appetite, and thoughts of harm to self or baby. The most common
barriers for fathers were lack of information regarding PPD resources and difficulty seeking support. This pilot study establishes the feasibility of the larger-scale exploration of fathers' experiences in supporting their spouses affected by PPD.


PURPOSE: To evaluate and compare the presence of perceived paternal stress and depressive symptomatology in fathers of preterm infants over time. SUBJECTS: Fathers of NICU infants born before 30 weeks of gestation. DESIGN: Prospective convenience sample. METHODS: Consenting fathers were given 2 self-report questionnaires: Center for Epidemiologic Studies-Depression Scale (CES-D) and Parent Stressor Scale: Infant Hospitalization (PSS:IH) on 7th (time 1), 21st (time 2), and 35th (time 3) days of life. Objective measurement of illness severity was quantified by Score for Neonatal Acute Physiology. Statistical methods included generalized linear estimating equation and mixed linear modeling. MAIN OUTCOME MEASURES: Stress and depressive symptomatology in fathers of preterm infants. RESULTS: Stress scores (PSS:IH) were unchanged over time (P = .62) indicating that fathers (n = 35) remain significantly stressed. Individual subcomponents of stress (parent role alteration, infant appearance/behavior, NICU sights/sounds) also remained constant over the study period (P = .05 for each). Stress scores over time were not modified by demographic characteristics (marriage, education, insurance). Mean depressive symptomatology scores (CES-D) decreased over time (P = .04). The percentage of fathers with elevated CES-D scores (>16) decreased from a baseline 60% but did not diminish between times 2 (39%) and 3 (36%). Parent Stressor Scale: Infant Hospitalization stress scores were correlated with CES-D depressive symptomatology scores (P < .01). Socioeconomic factors influenced initial CES-D scores, but only marriage ameliorated subsequent changes in measurements. Objective measurement of infant illness (Score for Neonatal Acute Physiology) did not influence paternal CES-D or PSS:IH scores. CONCLUSION: Fathers of premature infants in a medical NICU demonstrated elevated levels of stress that persisted across time for all domains of measured stress. Paternal self-reported stress and depressive symptomatology was independent of infant illness. One third of fathers had persistently elevated CES-D scores. If these findings are representative of general NICU population, then the emotional needs of our fathers are not being fully addressed.


Context: It is well established that maternal prenatal and postpartum depression is prevalent and has negative personal, family, and child developmental outcomes. Paternal depression during this period may have similar characteristics, but data are based on an emerging and currently inconsistent literature. Objective To describe point estimates and variability in rates of paternal prenatal and postpartum depression over time and its association with maternal depression. Data Sources Studies
that documented depression in fathers between the first trimester and the first postpartum year were identified through MEDLINE, PsycINFO, EMBASE, Google Scholar, dissertation abstracts, and reference lists for the period between January 1980 and October 2009. Study Selection Studies that reported identified cases within the selected time frame were included, yielding a total of 43 studies involving 28,004 participants after duplicate reports and data were excluded. Data Extraction Information on rates of paternal and maternal depression, as well as reported paternal-maternal depressive correlations, was extracted independently by 2 raters. Effect sizes were calculated using logits, which were back-transformed and reported as proportions. Random-effects models of event rates were used because of significant heterogeneity. Moderator analyses included timing, measurement method, and study location. Study quality ratings were calculated and used for sensitivity analysis. Publication bias was evaluated with funnel plots and the Egger method. Data Synthesis Substantial heterogeneity was observed among rates of paternal depression, with a meta-estimate of 10.4% (95% confidence interval [CI], 8.5%-12.7%). Higher rates of depression were reported during the 3- to 6-month postpartum period (25.6%; 95% CI, 17.3%-36.1%). The correlation between paternal and maternal depression was positive and moderate in size (r = 0.308; 95% CI, 0.228-0.384). No evidence of significant publication bias was detected. Conclusions Prenatal and postpartum depression was evident in about 10% of men in the reviewed studies and was relatively higher in the 3- to 6-month postpartum period. Paternal depression also showed a moderate positive correlation with maternal depression.


This study compared patterns in the stress, coping and parenting efficacy of mothers and fathers of low risk preterm infants. 25 couples completed a survey about their perceptions of their stress, coping, social support and parenting efficacy just prior to their infant's discharge from hospital and again three months later. For both mothers and fathers negative stress appraisals decreased and controllability appraisals increased in the three months following discharge. There were also changes in their coping strategies and social support. Psychological distress was higher among mothers than fathers but mothers tended to appraise the situation more optimistically, than fathers. Parenting efficacy also increased for mothers in the three months following discharge but was unchanged for fathers. These findings help us to understand parents' specific responses to stress and to plan discharge and community follow-up care in order to support families as they adjust to life subsequent to this stressful event.


Objectives. The goals of this study were to assess: (a) the involvement of fathers and mothers in overall and nighttime infant caregiving; (b) the links between paternal involvement in infant care and infant sleep patterns during the first 6 months. Methods: Fifty-six couples recruited during their first
pregnancy, participated in the study. After delivery (1 and 6 months), both parents completed a questionnaire assessing the involvement of fathers relative to mothers in infant caregiving. Infant sleep was assessed using actigraphy and sleep diaries. Results: Mothers were significantly more involved than fathers in daytime and nighttime caregiving. A higher involvement of fathers in overall infant care predicted and was associated with fewer infant night-wakings and with shorter total sleep time after controlling for breastfeeding. Conclusions: The findings highlight the importance of including fathers in developmental sleep research. Future studies should explore mechanisms underlying the relations between paternal involvement and infant sleep.


Purpose The purpose of this study was to investigate the stress experience of fathers of preterm infants during the infant's hospitalization. Specifically it aimed to examine fathers' stress, coping styles, and their use of and satisfaction with, sources of social supports. Design: The descriptive design was based on Lazarus and Folkman's model of stress and coping. Twenty one fathers completed a questionnaire based on standardized measures and a semi-structured interview. Results: Fathers reported moderate levels of stress. Fathers favoured the use of accommodation coping strategies and made efforts to re-frame the situation. Partners were the most frequently identified source of social and emotional support and nurses and doctors were the most frequent providers of informational support. Half the fathers were satisfied with social support but less were satisfied with the informational support they received. Conclusion: It is important to understand fathers' adjustment in this difficult situation in order to develop effective, supportive interventions in hospital and beyond discharge.


BACKGROUND: Although twin deliveries after assisted reproduction treatment (ART) are common, the mental health of the parents has scarcely been addressed. Therefore, we evaluated the psychological well-being of ART and spontaneously conceiving parents of twins and singletons. Furthermore, the impact of parity and children's health-related factors on mental health was evaluated. METHODS: We conducted a prospective longitudinal questionnaire study among ART parents of 91 pairs of twins and of 367 singletons and on control parents of 20 pairs of twins and of 379 singletons in the 2nd trimester of pregnancy (T1), and when the children were 2 months (T2) and 1-year old (T3). Symptoms of depression and anxiety, sleeping difficulties and social dysfunction were addressed via a questionnaire. The effects of parity and child-related factors were assessed at T2. RESULTS: At T1, ART mothers of twins showed fewer symptoms of depression than control mothers of twins (P < 0.05). At T2, both ART and control mothers of twins had more symptoms of depression and anxiety than all mothers of singletons (F = 5.20, P < 0.05 and F = 3.93, P < 0.05, respectively). At T3, both ART and control mothers of twins continued to report more symptoms of depression than the mothers of singletons (F = 10.01, P
< 0.01), but a difference in anxiety symptoms was seen only in the control group. All fathers had similar mental health at T1. At T2, ART and control fathers of twins reported more symptoms of depression (F = 4.15, P < 0.05) and social dysfunction than fathers of singletons. At T3, both ART and control fathers of twins had more symptoms of depression (F = 4.29, P < 0.05) and anxiety (F = 5.40, P < 0.05) than fathers of singletons. Control fathers of twins had more sleeping difficulties than fathers of singletons (F = 6.66, P < 0.01). Parity did not differently affect parental mental health at T2 in the study groups. Prematurity did not affect maternal mental health, but it had a negative impact on control fathers' social dysfunction (F = 3.34, P < 0.05). CONCLUSIONS: Twin parenthood, but not ART, has a negative impact on the mental health of mothers and fathers during the transition to parenthood. ART parents' mental health was not affected by parity or children's health-related factors.


OBJECTIVE: This qualitative study aimed at understanding the experiences of fathers of very ill neonates in the NICU. METHODS: Sixteen fathers of very ill and/or very preterm infants who had been in the NICU for >30 days were interviewed by a male physician. Fathers were asked about their level of comfort with or concerns about staff communication regarding their infant, about accessing information, and about more general perceptions of their experience in the neonatal intensive care unit. Interviews were audiotaped and transcribed for analysis. Coding used content analysis with construction of themes by 3 researchers. RESULTS: The overarching theme for fathers was a sense of lack of control. Their world view, as a "backdrop" theme, provided context for all of the themes. Four other interrelated subthemes were identified, including information; communication, particularly with the health care team; fathers' various roles; and external activities. Fathers reported that relationships with friends/family/health care team, receiving information consistently, and receiving short written materials on common conditions were ways of giving them support. The fathers said that speaking to a male physician was a positive and useful experience. CONCLUSIONS: Fathers experience a sense of lack of control when they have an extremely ill infant in the NICU. Specific activities help fathers regain a sense of control and help them fulfill their various roles of protectors, fathers, partners, and breadwinners. Understanding these experiences helps the health care team offer targeted supports for fathers in the NICU.


Abstract Title. The transition to parenthood: what does it mean for fathers? Aim. This paper is a report of a study to explore the needs of first-time fathers in relation to the care, support and education provided by healthcare professionals during the antenatal period, particularly in relation to preparing them for the transition to fatherhood. Background. Pregnancy and transition to parenthood are major developmental periods within families throughout the world. Previous research suggests that fathers in many different countries feel unprepared for parenthood. Methods. Purposive sampling was used to recruit 20 partners of primiparous women from two healthcare provider organizations in South-
West England between December 2005 and July 2006. Recruitment took place at about 28 weeks gestation. Semi-structured interviews were undertaken at home in the last trimester of pregnancy and 3-4 months postpartum. Content analysis of the interview data was undertaken. Findings. Several common themes emerged from both the ante- and postnatal data, including lack of support mechanisms, involvement in antenatal provision and the need for more information given in the antenatal period on parenting, baby care and relationships. Conclusions. Adequately preparing new fathers for parenthood in advance of the birth of their baby is important, and healthcare professionals can contribute to this by involving and supporting new fathers. Further study is needed to explore the role of fathers in antenatal education and the types of interventions that are effective in improving their early experiences of parenthood. The study needs to be repeated with fathers from black and ethnic minority groups.


Research suggests that the attitude of men towards pregnancy, childbirth and child-caring is different from that of women. Up to now, research has focused mainly on motherhood. The aim of this study was to explore first-time fathers' experiences during early infancy of their children. Grounded theory and constant comparative method were used and 20 fathers aged 20-48 participated. Interviews were carried out in 2002-2003. 'Changing life' emerged as the core category consisting of the categories: becoming a father, alternating between work and home, changing relationship towards partner and developing relationship with their child. Changing life implied that they have left bachelor life and become responsible for a child. Becoming a father was much more fantastic than they could have imagined and they suggested that they performed childcare to the same extent as the mother when both parents were at home. Still fathers viewed the mother as the main parent, partly because of their alternating between work and home and because the mothers breast-feed the infants. Fathers' attitude towards breast-feeding seemed to be ambiguous; it was a matter of necessity, but made them feel insignificant. Changing relationship towards partner was common but it was not necessarily for the worst and often resulted in a more closely united relationship. However, tiredness because of lack of sleep could result in increased irritability towards problems. Developing relationship with their child implied increasing possibilities to learn to know the infant's signals. Fathers are one of two parents, and hence are important for their child's growth and development, emotional health and cognitive development. Knowledge about first-time fathers' experiences during the early infancy of their children may bring about increased support from midwives and child health nurses.

OBJECTIVE: To compare the psychosocial adjustment and the quality of interaction with their infant of mothers and fathers of very low-birthweight infants at two time points in the first year of the infant's life. DESIGN: Quantitative, longitudinal design. SETTING: Neonatal Intensive Care Unit of two Canadian urban hospitals. PARTICIPANTS: Sixty-one couples who had an infant born weighing less than 1,500 g. MAIN OUTCOME MEASURES: State-Trait Anxiety Inventory, Parenting Sense of Competence questionnaire, and the Support in Parenting Questionnaire were completed at 3 and 9 months of age. Parent-infant interaction was observed at 9 months and scored with the Nursing Child Assessment Teaching Scale. RESULTS: Fathers' reported parenting self-efficacy was significantly lower than mothers' at both 3 and 9 months of age. Fathers reported more received support than mothers, and the amount of support that both mothers and fathers reported increased significantly from the 3-month to the 9-month assessment. Mothers and fathers reported similar levels of anxiety and perceived helpfulness of the support they received and were equally sensitive and responsive in interactions with their infants at 9 months of age. CONCLUSIONS: Similarities and differences between mothers and fathers were observed. It is important for nurses to assess mothers and fathers, how any differences are perceived by the couple, and how any differences might be affecting them during the neonatal intensive care unit hospitalization and in early months after discharge.


AIM: To compare mothers' and fathers' individual views and experiences of the attachment process in a neonatal intensive care unit within the first week after a premature birth. BACKGROUND: The attachment between parents and children is a precursor to the consolidation of parenting skills, the growth and development of the infant and the establishment of a bond between parent and child. Premature birth and the resultant hospitalization disrupt the normal attachment process between parent and child. Most of the literature on attachment theory focuses on the mother-child connection and is being criticised for regarding the father's role as supportive and peripheral. METHODS: The design of this study was descriptive with a hermeneutic approach. Twelve parents (six mothers and six fathers) in a 13-bed neonatal intensive care unit in a Norwegian regional hospital participated in a field study addressing the encounter between parents and nurses. This paper is based on the semi-structured interviews with the parents at discharge. RESULTS: The interview analysis revealed two main categories. (a) Taken by surprise: For mothers, the premature birth created a feeling of powerlessness and they experienced the immediate postnatal period as surreal and strange. The fathers experienced the birth as a shock, but were ready to be involved immediately. (b) Building a relationship: Mothers experienced a need to regain the temporarily lost relationship with their child, whereas the fathers experienced the beginning of a new relationship. CONCLUSION: Comparing parents' experiences of the attachment process within the first days after a premature birth reveals a striking contrast between the mother's experience of surrealism and the father's ability to be involved immediately after birth. Relevance to clinical practice. Parents' of premature children's different starting points should be acknowledged as professionals encourage parents to have early skin-to-skin contact with their premature infant.

Background Information and advice on infant health and development have been shown to be well received by new parents and to lead to more confident and nurturing parenting. However, in spite of the accumulating evidence highlighting the importance of fathers to the well-being of their families, fathers rarely access and utilize ‘parenting’ information. Tailored information for fathers delivered via email and Internet may provide an alternate route for support for fathers. This study aimed to assess father’s readiness to utilize electronic information tailored to father’s role. Methods Two hundred and fifty-three fathers from antenatal classes in two Australian cities were offered email and web-based information on seven topics: baby play, breastfeeding, post-natal depression, father–infant bonding, sex after birth, work–family balance and fussy babies. Of 137 who completed consent forms, a total of 105 fathers selected three topics and 67 fathers provided 149 topic evaluations. Results Most respondents were from managerial, professional or skilled occupations and had higher educational qualifications than the general population of fathers. The most popular topics were those that related to father–infant interaction (baby games and father–infant bonding), and the least popular were breastfeeding and sex after the birth. Respondents rated the information as satisfactory and most (78%) indicated that it changed their approach to fathering. Although the websites provided were available through the Internet, few fathers had previously accessed them. Conclusions Information tailored to new father’s perspectives provided through email or Internet may increase new fathers’ access to useful knowledge and support. Important health topics such as breastfeeding may not currently be perceived as particularly relevant to fathers in the antenatal period. Portals designed to filter existing websites could facilitate the use of parenting information by new fathers.


OBJECTIVE: Societal and economic shifts have expanded the roles that fathers play in their families. Father involvement is associated with positive cognitive, developmental, and sociobehavioral child outcomes such as improved weight gain in preterm infants, improved breastfeeding rates, higher receptive language skills, and higher academic achievement. However, father involvement in health care has been studied little, especially among nonmarried, minority fathers. Fathers are a significant part of the child's medical home, and comprehensive involvement of both parents is ideal for the child's well-being and health. Well-child visits (WCVs) represent opportunities for fathers to increase their involvement in their child’s health care while learning valuable information about the health and development of their child. The objective of this study was to explore fathers' involvement in, experience and satisfaction with, and barriers to WCVs using qualitative methods. METHODS: In-depth, semistructured, qualitative interviews were conducted in 2 cities with a subsample of fathers who were participating in the national Fragile Families and Child Wellbeing Study. The 32 fathers who participated in our study come from a nested qualitative study called Time, Love, and Cash in Couples with Children.
Fathers in our study reside in Chicago or Milwaukee and were interviewed about health care issues for 1.5 hours when the focal child was 3 years of age. Questions focused on the father's overall involvement in his child's health care, the father's attendance and experiences at the doctor, health care decision-making between mother and father, assessment of focal child's health, gender/normative roles, and the father's health. The open-ended questions were designed to allow detailed accounts and personal stories as told by the fathers. Coding and analysis were done using content analysis to identify themes. Particular themes that were used for this study focused on ideals of father involvement and dis/satisfaction, barriers to, and experiences in the health care system. RESULTS: Of the 50 fathers from the Time, Love, and Cash in Couples with Children study in the 2 cities, 3 had moved out of the state, 6 were in jail, 7 had been lost in earlier follow-up, and 1 had died, leaving 33 eligible respondents. Of those, 1 refused to participate, resulting in a final sample of 32 fathers and an adjusted response rate of 97%. The mean age was 31 years, and the sample was 56% black, 28% Hispanic, and 15% white; 53% were nonmarried. Only 2 fathers had attained a college degree or higher, and 84% of the fathers were employed at the time of the interview. The majority (53%) had attended a WCV and 84% had been to see a doctor with their child in the past year. Reasons for attending a WCV included (1) to gather information about their child, (2) to support their child, (3) to ask questions and express concerns, and (4) to gain firsthand experience of the doctor and the WCV. Fathers reported positive and negative experiences in their encounters with the health care system. The 3 main contributors to fathers' satisfaction with health care professionals were (1) inclusive interactions with the physician, (2) the perception of receiving quality care, and (3) receiving clear explanations. The negative experiences were often specific instances and noted along with positive comments. The negative experiences that were mentioned by the fathers included feeling viewed suspiciously by health care staff, being perceived as having a lesser emotional bond with their child than the mother, and the perception that they were receiving a lower quality of service compared with the mother. Major barriers to attending WCVs include employment schedules as well as their relationship with the focal child's mother. For example, some fathers stated that they did not attend WCVs because that was a responsibility that the mother assumed within the family. Other fathers lacked confidence in their parenting skills, which resulted in lower involvement levels. Also mentioned


The technological intensive care environment of the neonatal intensive care unit (NICU) presents a challenge for nurses to integrate care that supports the development of premature infants while facilitating and supporting parents as collaborators in the care of their infant. Engaging mothers in talking to and providing care for their infants is, for the most part, the focus of family nursing interventions in this intense environment. Engaging fathers at the bedside in the NICU is a much more difficult task. The purpose of this article is to identify potential barriers in the NICU perceived by fathers and intervene so that fathers are more likely to engage in being present for their infant and significant other. This is a part of the ongoing nursing assessment that identifies family care needs and weaves interventions into the developmental plan of care.

Objective: To examine mothers’ perceptions of support from fathers over the 1st year after birth of a medically fragile infant. Design: A descriptive, correlation design based on an ecologic systems view of the family. It was hypothesized that the levels of paternal support would be influenced by factors within the two subsystems: the mother-father system (marital status) and the child subsystem (health and gender). Setting: A tertiary care children's hospital. Participants: Sixty-four mothers of medically fragile term and preterm infants, who were married or living with the father. Main Outcome Measures: The Stress Support Scale assessed maternal perceptions of helpfulness and satisfaction with paternal support at enrollment, after discharge, and around 1 year of age. Results: Mothers reported high levels of help from fathers at enrollment. Married mothers did not differ from unmarried mothers in their perceptions of helpfulness of support but were more satisfied with support. Mothers of female infants received more help from fathers than mothers of male infants, and this difference increased over time. However, mothers of female infants were not more satisfied with paternal support. Neither number of technologies nor birthweight related the maternal perceptions of paternal support. Conclusions: Family systems factors were more significant in maternal perceptions of paternal support than the health status of the infant. JOGNN, 35, 46-55; 2006. DOI: 10.1111/J.1552-6909.2006.00015.x


The aim of this study was to describe the experiences of being a father to a prematurely born infant. Eight fathers of prematurely born children were interviewed using a narrative approach, and a thematic content analysis was used to analyse the interviews. The fathers described that the preterm birth gave them the chance to get to know their infant as they had to spend time at the intensive care unit. They also felt better educated by professionals who helped them take care of their infant. Their feelings and attachment for their infant increased over time and the fathers felt that they had a stronger bond with their child compared with friends who had babies born at term. As time passed, they became more confident as a father. In spite of the strain, the experience made them change as a person and they expressed having different values. The relationship with their partner was strengthened as they handled this situation together as a couple. However, the fathers felt fortunate despite everything and described having managed a prematurely born infant rather well. Although there are similarities between being a father to a child born at term and to one born preterm, it is significant to gain further knowledge about the specific experiences of fathers of prematurely born infants. The results of this study have implications for nurses working with families who have children born prematurely.

Aim The aim of this study was to describe the experiences from the birth of premature infants in the fathers' perspective. Methods Eight fathers participated; their infants were born prematurely and thereby needed care in a neonatal intensive care unit. Narrative interviews were conducted and a thematic content analysis was used to analyze the interviews. Results and conclusion Fathers described their experiences of having a preterm infant, as getting into the midst of something never previously reflected on. It was important to have information and to know what was going on, but it was difficult to understand what was happening. The fathers were protective over the mother and infant. They wanted to be with both the mother and the infant as much as possible and wished to be seen as a natural part in the care. However, fathers had their own needs and, therefore, needed to be cared for as well.


Open interviews with 13 fathers were performed, using a hermeneutic phenomenological method, to illuminate their lived experience of caring for their preterm infant. Their lived experience was expressed as a process moving from initial feelings of distance toward feelings of proximity. The process was described as a pendulum that was easily disturbed. Feelings of distance included experiences of living beside reality, becoming an outsider, and living with worry. Feelings of proximity included experiences of returning to reality, becoming a family, and facing the future. Illumination of the father-infant interaction adds to the family-centered body of knowledge in neonatal nursing.