NEONATAL COUPLET CARE: THE NEXT EVOLUTION IN FAMILY CENTERED NEONATAL CARE

by
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Abstract

Creating ways for parents and their sick or premature newborns to bond in the first few days and weeks of life has historically been a challenge for most neonatal services in the United States. Separation between mother and baby due to newborn illness can cause great stress and affect the mother-infant relationship and their ability to bond equally (Kearvell & Grant, 2010). Neonatal couplet care offers a solution to separation by keeping the mother and her ill or premature infant together from admission to discharge. This is done by providing postpartum care for the mother and advanced neonatal care for the sick or premature infant, in the same room thus preserving the mother/baby dyad. This innovative model of care overcomes the traditional barriers to mother/baby bonding in the neonatal intensive or intermediate care areas. This article will discuss the philosophy, design, implementation, barriers and benefits of the neonatal couplet care model.
Introduction

Creating ways for parents and their sick or premature newborns to bond has been a challenge for most neonatal services in the United States. In practice, if the baby is born sick or premature they are taken promptly to the nursery from the delivery room for further medical management and care. And depending on the circumstances surrounding the birth, it could be hours or days before the mother is able to be reunited with her baby. This separation between mother and baby due to newborn illness can cause great stress and affect the mother-infant relationship and their ability to bond equally (Kearvell & Grant, 2010). When the mother is reintroduced to her baby in most family centered neonatal services, the mother is asked to partner with the nurse and medical team in caring for her baby. The challenge for the neonatal nurse is not only to provide the best possible developmental care for a preterm infant but also to help the mother through an uncertain motherhood toward a feeling of being a real mother for her preterm baby (Aagard & Hall, 2008).

Neonatal couplet care (NCC) is an innovative model that challenges the need for mother/baby separation due to the needs of her ill or premature newborn. NCC involves caring for a postpartum mother and her ill newborn together and minimizes separation from birth to discharge. The mother/baby dyad is kept intact throughout the maternal and newborn hospitalization which provides the optimal environment for mother/baby bonding.

NCC continues by preparing the parent to be the primary caregiver. Family centered neonatal care has become a standard in most units and require that families are welcomed as partners in caregiving and decision making (Griffin, 2006). Neonatal couplet care takes the next step in the family centered model, which places parents in the role of lead caregivers to their infants and as the experts in their infant’s needs while the medical team provides coaching and direction.

NCC has been practiced in Sweden for almost 10 years and their current research suggests that providing facilities for parents to stay in the neonatal unit from admission to discharge may reduce the total length of stay for infants born prematurely (Orentstrand et al., 2010). In this article the science, design, implementation and practice of neonatal couplet care in a community hospital in the United States will be reviewed and discussed.
**Why is couplet care so important?**

The science that supports the need for neonatal couplet care is based in the concepts of mother/baby attachment and the effects of early mother/baby separation. Attachment can be defined as the formation of a relationship between a mother and her newborn infant (Bialoskurski et al., 1999). Because the attachment process in the first hours and days of life is reciprocal and almost completely sensory in nature, the mother and baby must be together for attachment to work (Phillips and Fenwick, 2000). The postpartum period is a critical transitional time for women, her newborn, and her family on psychological, emotional and social level (Phillips, 2003).

It has become apparent through many animal based studies that that the unique features of early infant attachment reflect certain unique features of early infant sensory and motor integration, learning, communication, and motivation, as well as the regulation of biobehavioral systems by the mother–infant interaction (Hofer, 2006). Stephen Suomi (1997) and Harlow (1958) recognized that early experiences can have profound and lasting effects on behavioral and physiological functioning in rhesus and other macaque monkeys and that this research may give us an idea of how human bonding can be effected by early experience.

The long-term neurobiological consequences of early experiences which have been explored extensively in animal models suggest that epigenetic mechanisms may play a critical role in shaping stable individual differences in gene expression, physiology and behavior. In particular, these studies suggest that maternal care can have profound effects on offspring phenotype that are associated with molecular changes in the structure of DNA with consequences for the activity level of genes that are critical for regulating stress responsivity and maternal behavior (Champagne & Curley, 2009). The environment and level of interaction, that both the mother and infant experience early in life can have an effect on them developmentally and in their relationship to each other.

Prematurity and associated maternal-infant separation at birth can affect the attachment process (Bialoskurski et al., 1999). This effect has been witnessed mostly on animal models, although a human study suggests skin-to-skin contact, for 25 to 120 minutes after birth, early suckling, or both, positively
influenced mother-infant interaction 1 year later when compared with routines involving separation of mother and infant (Bystrova et al., 2009). These studies have provided the basis of need to keep not only healthy newborns in close contact with their mothers, but ill or premature newborns as well.

**Care Process and Unit Design**

The focus of preserving the mother baby couplet starts in the delivery area. For every known birth that will require a Special Care Nursery admission, all equipment and supplies for stabilization and continuing care are made accessible to the care time in the delivery room. Once the infant is born and stabilized from a respiratory stance, the baby is placed on the mother’s chest and all other care activities are done while the baby is skin to skin with the mother. This can include initial assessments, NCPAP administration, capillary blood testing, intravenous fluids and monitoring. Once the mother has completed her initial birth recovery, the couplet is transferred skin to skin to a family care suite. All supportive medical equipment are made portable so newborn transfers do not require separation of mother/baby.

The unit design and reliance on wireless technology are essential components in implementing couple care in the postpartum period. In the NNC model, family care suites are designed to care for both a recovering mother and her high risk infant. There is designated care space for the mother and a full critical care headwall and monitoring for the newborn. All cardiorespiratory monitors are wireless and allow for free movement of the infant within the family care suite and neonatal unit.

The mother/baby couplet is cared for together in a family care suite adjacent to the Special Care Nursery until the mother’s discharge. The acuity of both the mother and baby determines the level of nursing care required for each patient. Neonatal nurses are trained and competent to care for low risk postpartum mothers and sicker mother such as those receiving magnesium sulfate, require a specialized postpartum nurse.

Once the mother is no longer a patient, the newborn is transferred to a single family room in the Special Care Nursery for the remainder of the infants stay. The single-family room environment appears more conducive to the provision of family-centered care (Stevens et al., 2011).
Parents are encouraged to spend as much time as possible caring for and being with their baby. Accommodations such as in-room bed and community kitchen, living room, computer access, shower and laundry facilities are all located just steps outside of their infant’s bedroom. Wireless monitoring allows for parents to freely move around the unit with their baby and promotes a more homelike environment.

**Nurses as Coaches**

The foundation to Family Centered Care is the partnership between families and professionals (American Academy of Pediatrics, 2005). How well a mother of a premature infant begins to take on the role of parent and develop parenting skills during the infant’s neonatal intensive-care unit (NICU) stay is likely to affect how well home care goes (Blackburn, 1999). There have been great improvements throughout most NICUs to encourage parent partnering and participation in decision making and care. In the NCC model parents are viewed not as a partner in the care of their infants, but the primary caregiver. From birth or admission the parents are given the expectation that their role as a parent is the most important factor in their infant’s health. Most daily care is provided by parents and they are welcome to participate in any aspect of care they choose to, such as: procedural support, removal of catheters, vital signs, preparing the infants for feedings, weighing, bathing, care decisions and unlimited access to their baby. The nurses’ main role is to coach the parents as the family gains confidence in caring for their baby. This paradigm shift can be difficult for the healthcare team at first and takes time to transition from the old ways of providing care.

**Conclusion**

Neonatal couplet care (NCC) is an innovative model that challenges the need for mother/baby separation due to the needs of her ill or premature newborn. NCC involves caring for a postpartum mother and her ill newborn together and minimizes separation from birth to discharge. NNC continues by preparing the parent to be the primary care-giver. NCC takes the next step in the FCC model, which places parents in the role of lead caregivers to their infants and as the experts in their infant’s needs while the medical team provides coaching and direction.
References


