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A Guide to Bonding in the Neonatal ICU

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### **Introduction and Background of the Project**

When a newborn is admitted to the Neonatal Intensive Care Unit (NICU), it can be a very stressful time for both parents and baby. Admission to the NICU hinders the initial bonding that occurs between mother and baby, directly after birth. Once the newborn is stable in the NICU, it is important for the natural bonding process to take place. Bonding is very beneficial for the newborn and their parents, both physiologically and psychologically.

In the NICU at Greenwich Hospital, the healthcare team seeks to promote bonding to ensure that this important piece of the transition to extra-uterine life is not overlooked. In order to encourage parent-infant bonding, parents must understand the importance of this connection with their newborn. A pamphlet was constructed to serve as a patient teaching tool. It was designed to guide parents on the benefits of bonding and the ways that they can bond with their baby, during their stay in the NICU.

### **Role Responsibility of the Nurse**

“[The] nurse plays a crucial role in the care of infant and helps the mother to promote her attachment behavior with the infant in the NICU” (Valizadeh, Ajoodaniyan, Namnabati, Zamanzadeh, & Layegh, 2013, p. 39). The nurse is in the best position to provide support, suggest interventions, and guide the parents during this challenging time in their lives (Walker, 2013). NICU nurses aim to facilitate the parents’ role and connect them with their baby (Walker, 2013). As the nurse, it is essential that information is given to the parents on the importance of bonding and the ways they can bond with their newborn. The nurse must act as a patient advocate by promoting and facilitating parent-infant attachment, in order to provide competent, quality, family-centered care. Barriers that can interfere with the attachment process must be eliminated by the nurse to provide an optimal environment for the newborn (Cho et al., 2016).

The positive effects of bonding lead to better patient outcomes, which is one of the utmost priorities of a nurse. This pamphlet can be distributed to patients' parents by nurses or any other member of the health care team, as a way to inform parents of the benefits of bonding and the different bonding methods that can be utilized. In conjunction with discussing bonding with the parents, the nurse can use the pamphlet as a visual guide and reference for parents to refer back to, even after discharge. By using the pamphlet, the parents will have greater knowledge on bonding and can be more actively involved in caring for their baby. This has positive effects on not only the newborn, but the parents as well. The benefits lead to earlier discharge for both mother and baby (Valizadeh et al., 2013). From a financial standpoint, this is better for the family and the hospital, in addition to aiding in the flow of the unit. Bonding is also a low-cost intervention, saving money, while fostering optimal outcomes in the newborn's status (Everecklian & Posmontier, 2017).

### **Evidenced Based Research**

The most common way to bond is through skin-to-skin contact, also known as, "kangaroo care." Kangaroo care is performed by positioning the baby on either parent's bare skin, most commonly their chest, while the baby wears only a diaper (Speropulos, 2015). The World Health Organization has, "indicated that kangaroo care is the most effective method for body temperature maintenance, infection prevention, sense stimulation, and offering maternal love for the baby's well-being" (Cho et al., 2016, p. 431). In babies born with low birth weights, it has been found that kangaroo care also decreases morbidity and mortality (Valizadeh et al., 2013). Kangaroo care can be practiced either continuously or intermittently (Blomqvist, Frölund, Rubertsson, & Nyqvist, 2013). Continuous kangaroo care is skin-to-skin contact that takes place

24 hours a day, while intermittent kangaroo care is performed for a certain period of time, such as one to two hours (Blomqvist et al., 2013).

If the infant's condition does not permit skin-to-skin contact, for example myelomeningocele, there are other options that parents can utilize to help bond with their baby. These alternatives can also be used in conjunction with kangaroo care, if the infant's condition allows. Two other options for bonding include reading and singing to the newborn. Reading books provides a way for parents to participate in their baby's care and allow them to feel like they are "doing something," when they are unable to feed or hold their newborn (Walker, 2013, p. 1). It can give parents hope and make their interactions with their baby feel more meaningful (Walker, 2013). Reading promotes a sense of closeness between infant and parents, in addition to offering positive outcomes socially, emotionally, psychologically, and educationally (Walker, 2013). It gives comfort to both parents and baby, it is cost effective, and is considered a "no harm" intervention to incorporate reading into the baby's care (Walker, 2013, p. 3). Singing lullabies is also very beneficial; throughout the pregnancy the baby hears their parents' voices, which become familiar to them (Persico et al., 2017). When these familiar sounds are heard, they soothe the baby and encourage parent-infant bonding (Persico et al., 2017). Maternal stress was found to be reduced, infants' were more easily soothed, and less crying episodes were experienced by babies whose parents were singing lullabies to them (Persico et al., 2017).

Bonding has many positive effects on both parents and baby; these effects are physiological as well as psychological. Newborns that are born prematurely are especially at risk for negative consequences related to preterm birth, so bonding is essential to promote their well-being (Gulla, Dahlø, & Eilertsen, 2017). Bonding, specifically through skin-to-skin contact, aids in stabilizing the newborn's physiologic status (Gulla et al., 2017). This is achieved by regulating

body temperature, improving oxygen saturation, and maintaining regular breathing (Cho et al., 2016). Fast and irregular breathing uses more energy, therefore the infant is burning more calories (Cho et al., 2016). When breathing is regulated, energy use is reduced allowing for weight gain, which is critical for newborns that are born premature (Cho et al., 2016). There is a reduction in apnea experienced by the newborn as well (Valizadeh et al., 2013). The risk of hypoglycemia declines, in relation to regulated body temperature; if an infant is cold, they will use up their glycogen stores, resulting in hypoglycemia (Kristoffersen, Stoen, Hansen, Wilhelmsen, & Bergseng, 2016). A regular sleeping pattern is promoted from bonding which aids in brain development; it allows for a steady delivery of oxygen to the brain, also increasing oxygen saturation (Cho et al., 2016). In addition, a regulated sleeping pattern contributes to better gastric hormone secretion, decreased pain experienced by the baby, and reduced risk of infection (Cho et al., 2016). Infection is also decreased as there is an improved skin barrier provided through skin-to-skin contact, as the growth of the newborn's skin is promoted (Cho et al., 2016). When infants are admitted to the NICU, they are separated from their mothers and placed into a setting that hinders tactile, visual, and auditory connections (Cho et al., 2016). Bonding stimulates the newborn's senses, increasing their interactions with the environment, making them more alert (Cho et al., 2016).

As there are many physiological impacts on the newborn, there are psychological effects as well. Behavioral stability improves with bonding, as shown by less crying observed in the newborn (Speropulos, 2015). It has also been found that parent-infant attachment has positive effects on long-term growth and development (Valizadeh et al., 2013). In addition, there is a positive impact on social and emotional development (Walker, 2013). With long-term hospitalization, contact with family can be limited, potentially leading to, "developmental delay,

developmental disorders, and personality disorders,” which is another reason why bonding is so important (Cho et al., 2016, p. 431). Bonding can also reduce the incidence of childhood behavioral problems (Valizadeh et al., 2013). The development of language skills are improved as well, primarily through reading to the infant (Walker, 2013).

The benefits of bonding also extend to the parents of the baby. The parent-infant relationship is strengthened emotionally, psychologically, and socially, leading to increased feelings of closeness between the parents and their newborn (Sarapat, Fongkaew, Jintrawet, Mesukko, & Ray, 2017). Parents have more confidence in providing care for their baby and are more responsive to their baby’s cues (Sarapat et al., 2017). They also have higher satisfaction and have decreased feelings of helplessness, as they are playing a role in their baby’s care (Sarapat et al., 2017). There are also benefits exclusively for the mother. Skin-to-skin contact improves breastfeeding by stimulating milk production, more milk is produced leading to newborn weight gain (Valizadeh et al., 2013). Maternal stress is reduced by bonding with her baby, as often mothers experience guilt believing that the premature birth was her fault (Cho et al., 2016). Mothers are left feeling stressed and anxious related to the NICU admission, the long-term separation, and possible complications that may occur (Cho et al., 2016). Bonding can help to eliminate these negative feelings and contribute to earlier discharge of mother and baby (Valizadeh et al., 2013).

### **Developmental, Age Appropriate and Culturally Sensitive Consideration**

The pamphlet is geared toward the parents of newborns in the NICU. This includes all women of child-bearing age and their partners, which is an extensive age range. The pamphlet is clearly organized with headings labeling each panel, making it easy to read. It consists of an introduction, a panel for the baby, one for the parents, and another on the ways to bond. The

pamphlet was designed to capture the reader's attention with color and pictures. The pictures provide visual aids demonstrating the mentioned methods of bonding for those who are visual learners. It was written for a fourth grade reading level, so parents of different educational levels would be able to understand. Since each family will receive a pamphlet, they will have the opportunity to review it in the future, so if it takes longer for the parents to learn the material, or they cannot remember the information, they will be able to reference the pamphlet moving forward. The font is large and bullet points are used, so it is easy to read. Additionally, the pamphlet has been translated into Spanish, as many people speak Spanish as their primary or secondary language. It can also be easily translated into other languages, to adapt to all different cultures.

### **Patient Centered Care Principles**

In the NICU, family-centered care is vital; the parents of the newborn are patients too. They need to feel actively included in the care of their baby, and one of the best ways for the parents to be involved is through bonding. The pamphlet includes the benefits of bonding for the parents and their newborn. It includes the parents, so they can understand that connecting with their infant will positively affect them as well. It acknowledges their role as parents in the NICU and the importance of their involvement in their baby's care. One panel of the pamphlet is strictly focused on the benefits for the parents and another is concentrated on the infant benefits. These panels both clearly list the positive effects of attachment, in an easy to read format. When parents read about all of the incredible benefits in the pamphlet, such as, earlier discharge of mother and baby, it should empower them to bond (Valizadeh et al., 2013). Additionally, it should encourage them to be more active in their infant's care. One of the many benefits of bonding for parents is having more confidence in caring for their infant. With greater confidence,



the parents will be able to work with the nurse to see how else they can be involved in the care of their baby. If their infant's condition allows, they may be able to assist with diaper changes, bathing, and feeding, which all further aid in the attachment between parents and baby.

### **Nursing Competencies: Inter-professional Collaboration, Quality Improvement, Safety**

The pamphlet can be given out by any member of the healthcare team, including the neonatologist, nurse practitioner, physician assistant, and nurse. This allows for the same information to be given to all parents, regardless of the healthcare team member they are working with. The healthcare team must collaborate in order to determine the feasibility of skin-to-skin bonding and if it is feasible, they must use teamwork to help implement it. "Stimulating a culture for extensive parent presence, including SSC (skin-to-skin contact), depends on system-wide reform to ensure the quality and competence of staff and the flow of information" (Gulla et al., 2017, p. 256). In order for kangaroo care to be effective, the healthcare team has to be supportive and work with the family, assisting throughout the process. For example, successfully transferring the newborn from an isolette to the parent for kangaroo care, can take 3 or even 4 people; this means there must be collaboration amongst the healthcare team (Speropulos, 2015). Without help and cooperation amongst the team, kangaroo care can be hindered, along with the benefits that go along with it. It can be nerve-wracking for parents, especially when their baby has wires, tubes, and IV lines; they are afraid of handling the baby and not being gentle enough (Sarapat et al., 2017). Parents may also be unsure of their infant's condition, leading to more concern, so it is important that they have an understanding of the baby's status (Sarapat et al., 2017). It is the responsibility of the healthcare team to ensure the parents possess the knowledge they need, so they can be more involved in the infant's care.

While parent-infant bonding takes place, safety is of utmost importance, especially with kangaroo care. When the parents are reading or singing to their baby, there is not as much of a safety risk as with skin-to-skin contact. During kangaroo care, the nurse or another member of the healthcare team must always be close by to offer assistance and check on the family. The infant can potentially be dropped, posing the greatest risk to safety. It is important that the baby remains connected to the monitor, so their vitals can be closely watched for any changes in status. With these safety measures maintained, the benefits of bonding are able to be achieved. Higher quality care is received by the patients, along with better patient and parent outcomes.

### **Conclusion**

Bonding between the parent and infant is essential, whether it is achieved through kangaroo care, reading, singing lullabies, or a combination of all three. Through the development of this patient teaching tool, I was able to form a better understanding of how vital the role of the nurse is in facilitating bonding and providing family-centered care. Family-centered care, especially in the NICU, is of utmost importance, as shown through the tremendous impact it has on not only the patients, but their parents. This pamphlet provides information to parents, giving them the knowledge they need so they are aware of the ways they can bond with their baby in the NICU, and the benefits it has for the whole family.

I have learned so much throughout this clinical experience that I can apply throughout my nursing career. The nurse must act as a patient advocate, support system, and resource for families, as they are going through a very difficult time in their lives. They need to have someone encouraging them, teaching them, and assisting them in any way they can, and this someone is the nurse; I want to be that nurse. I want to touch these little lives and the lives of their families, aiding in their transition to extra-uterine life to get them home, where they belong.

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