Getting connected: How nurses can support mother/infant attachment in the neonatal intensive care unit

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KEY WORDS

Neonatal intensive care unit (NICU), neonatal nursing, mother-infant attachment, breastfeeding, kangaroo care, support.

ABSTRACT

Objective
To explore how nurses can support the mother-infant dyad within the neonatal intensive care unit.

Setting
Neonatal unit, Neonatal Intensive Care Unit.

Data Sources
A literature search was conducted using CINAHL, PubMed, Web of Knowledge electronic databases and other key references.

Primary Argument
Hospitalisation and infant ill health interrupts the natural attachment process between a mother and her baby. This can cause great stress and affect the mother-infant relationship and their ability to bond reciprocally. While nurses provide specialised care to sick infants, two major themes and five sub-themes emerged on how nurses can also support mother-infant attachment. In the area of mother-infant interaction kangaroo care, breastfeeding and participation in routine care were found to enhance the mother's maternal role, feelings of closeness, inclusion and confidence. In the area of nurse-mother interaction, nurses who provided psychosocial support, communicated and engaged with mothers were found to assist in developing positive and trustful relationships. This alleviated mother's anxiety and enhanced their confidence when interacting with their baby.

Conclusion
Nurses working in neonatal intensive care units need to construct nursing care around the mother-infant dyad, with roles and responsibilities that incorporate mother-infant and mother-nurse relationships in support of the mother-infant attachment process.

INTRODUCTION

The newborn period is uniquely distinguished by the inseparable relationship a mother has with her infant (Karl et al 2006 p257). To enable an attachment to be built infants need to be close to their mothers to cue their needs and mothers need to be close to respond to them (Karl et al 2006 p258). Attachment is the formation of a relationship between a mother and her infant through a process of physical and emotional interactions (Franklin 2006 p81). It begins before birth, during the prenatal period where acceptance and nurturing of the foetus growing inside the mother's body takes place (Johnson 2008 p255; Franklin 2006 p81). The process of reciprocity is adaptive as the mother learns to recognise her infants cues, adapt to her behaviours and responses and meet the needs of her infant (Johnson 2008 p255).

Many factors can interrupt the mother-infant relationship. In Australia, for example, approximately 40,000 babies are admitted to special care nurseries each year with a range of health complications and needs (Toivonen 2008 p1-4). Hospitalisation and the infants ill health can interrupt the mother-infant attachment process and cause great stress for the family involved (Ramona and Lorraine 2006 p569). While nurses and other health care workers provide specialised care for sick and premature infants in hospital, many mothers struggle with limitations in their maternal role (Johnson 2008 p255). The stress experienced by parents during their infants hospital stay can affect the parent-infant relationship and their ability to bond reciprocally (Gale et al 2004 p68). Studies show that nurses play a vital role in supporting interactions between the infant and mother in the neonatal intensive care unit environment (Gale et al 2004; Blackburn 1998). How nurses implement this support is the subject of this literature review.

SEARCH METHODS

A review of published research consisted of the following steps; broad reading to determine areas of focus, identification of inclusion and exclusion criteria, literature search and retrieval, critical appraisal and analysis of the research evidence and synthesis of evidence (Roberts and Taylor 2002). Evidence was reviewed with the aims of identifying barriers that affect the mother-infant dyad within the neonatal intensive care unit and how nurses can actively support attachment.

Articles were included if the setting was primarily in a neonatal intensive care unit (neonatal unit or neonatal intensive care unit), participants were mothers of infants admitted to neonatal intensive care units or nurses working within that setting; the study identified factors that encourage or inhibit mother-infant attachment; highlighted the mother's own experiences of having their infant in a neonatal intensive care unit; and identified positive or negative aspects of nursing care in relation to the research topic. Articles were also included if they were primary research studies, published between 1998 and 2008 and in written in English language.

The sources of literature were CINAHL, PubMed and Web of Knowledge electronic databases. Literature was discussed with an experienced neonatal intensive care clinician and an academic mentor. The following key words were used to conduct the literature search: neonatal intensive care unit (NICU); neonatal unit; mother infant dyad; nursing care; neonatal nursing; attachment; mother-infant; kangaroo care; breastfeeding; nursing support; and premature infant.

Fifteen articles that met the selection criteria were reviewed. Thirteen were qualitative and two were mixed method studies. Critical appraisal of the qualitative studies was conducted using a selection of questions from the Critical Appraisal Skills Programme (CASP 2006). Critical appraisal of the mixed studies was conducted using a selection of questions from the University of Salford (2001) evaluation tool for mixed studies.

Following Roberts and Taylor (2002) the qualitative studies in this review were further evaluated using categories of credibility, fittingness, auditability and confirmability to determine rigour or 'validity and reliability'.

Thematic analysis was used to identity themes or patterns within the texts. These themes were then refined by grouping them into specific categories or sub-themes representing their own unique connection within the research aim (Braun and Clarke 2006; Roberts and Taylor 2002). Two themes were identified and five sub-themes. Some articles represented more than one theme (see table 1).

Table 1: Themes and sub-themes

Themes	Subthemes	No.of Studies	Studies
1) Mother-Infant Interaction:	Kangaroo care	8	Chia and Sellick (2005), Feldman et al (2002), Johnson (2007), Neu (1999), Roller (2005), Flacking et al (2006), Orapiriyakul et al (2007), Wingert et al (2006).
	Breastfeeding	1	Flacking et al (2006).
	Participation in Routine Care	6	Johnson (2007), Fenwick et al (2008), Bialoskurski et al (1999), Martinez et al (2007), Erlandsson and Flagerberg (2004), Heermann et al (2005).
2) Mother-Nurse Interaction:	Psychosocial Support	6	Orapiriyakul et al (2007), Flacking et al (2006), Neu (1999), Johnson (2007), Fenwick et al (2008), Mok and Leung (2006).
	Communication	3	Orapiriyakul et al (2007), Fenwick et al (2001), Mok and Leung (2006).

Mother-Infant Interaction

Early contact between infants and mothers is vital for initiating their relationship (Hunt 2008 p48). Neonatal nurses play a crucial role in assisting the attachment process by promoting and encouraging early mother-infant interaction (Chia and Sellick 2005 p20). Ways in which the nurse can support the mother and infant to interact directly are presented within the following three sub-themes of kangaroo care, breastfeeding and participation in routine care.

Kangaroo care

It was concerning that many mothers expressed a feeling of separation, exclusion and powerlessness in the NICU (Wigert et al 2006; Roller 2005). Mothers involved in Kangaroo Care (KC) were found to have different experiences. Kangaroo care provides skin-to-skin contact by placing the infant naked or wearing a nappy, prone and upright onto the bare chest of the mother (Chia and Sellick 2005 p20; Feldman 2004 p145). Seven studies reported that KC enabled mothers to have physical contact with their infant, which enhanced mother infant attachment and contributed to early development. Mothers felt KC was a 'warm, calming and comforting bonding experience', that provided both the mother and infant the opportunity to get to know one another in a profound and beneficial way (Wigert et al 2006 pp215-16; Roller 2005 p215). KC was expressed by mothers as a method that enabled them to get close to their infant, enhanced a reciprocal pleasure, encourage and strengthen attachment with their infant in an environment that inhibits this process (Flacking et al 2006 pp74-5; Wigert et al 2006 p216; Roller 2005 p216). Similarly, Neu (1999 p161) and Johnson (2007 p570) highlight the fact that mothers felt an intense feeling of connectedness during KC, which provided them with a sense that they were nurturing their infant. This in turn enhanced maternal confidence. Research by Feldman et al (2002 p21) revealed that the level of dyadic reciprocity between mothers who provided KC to their infants, including those classed as high-risk was significantly higher than those who did not provide KC.

Chia and Sellick (2005 p24) report that a majority of the nurses strongly agreed that KC promotes mother-infant attachment, maternal feeling of closeness and increases the mother's confidence while enhancing the physiological and behavioural status of the infant. Nurses felt that KC should be encouraged particularly for mothers with low birth weight and intubated infants (Chia and Sellick 2005 p23). Although nurses recognised the benefits of KC

they also expressed some concerns that impacted on their capacity to implement KC. These included minimal space in the NICU, fear of dislodging equipment, staff shortages to supervise the technique and minimal time to prepare the infant and educate the mother (Chia and Sellick 2005 p25).

Breastfeeding

Flacking et al (2006 p74) argue that breastfeeding is a critical aspect of mothers attaining some form of attachment with their infant. Mothers described the physical closeness of breastfeeding as giving them a feeling of importance and normality through infant vitality (Flacking et al 2006 p74). This interaction was expressed by mothers as a step in healing that enhanced the attachment between the mother and her baby (Flacking et al 2006 p75). Breastfeeding was described as 'not really considered as 'feeding', but more as a way of being together, where the main purpose was reciprocal pleasure, comfort and attachment' (Flacking et al 2006 p75).

Participation in Routine Care

The nurse was found to be an important facilitator of attachment in the neonatal intensive care unit by encouraging mother-infant contact to increase physical and psychological attachment (Bialoskurski et al 1999 p74). Bialoskurski et al (1999 p72) state that immediate attachment is more likely when the mother could see and have physical contact with her baby after birth. Six studies confirmed this assertion. For example, nurses who encouraged nurturing actions and contact such as touching, talking, singing, comforting, changing nappies, feeding, turning their infant and responding to behavioural cues were found to be central in the establishment of mother-infant attachment (Johnson 2007 p571). If women were informed and able to participate in their infants care, feelings of involvement, confidence and connection were established (Fenwick et al 2008 p75). These authors also discovered that not all mothers had the ability and confidence to assert their own management of their infants in this environment. Importantly, involvement in their infants care was only possible with a positive and shared attitude of the nurse (Fenwick et al 2008 p76).

Mothers who were involved in their infants care in the neonatal intensive care unit were enabled to take up their authority as a 'mother' and make decisions about their infants' care, establishing a positive attachment (Heermann et al 2005 p175; Erlandsson and Fagerberg 2004 p134). Further, Martinez et al (2007 p241) proposed that nurses are key professionals in educating parents about methods of maternal care especially related to feeding.

Mother-Nurse Interaction

The relationship between the mother and nurse plays a vital role in supporting a mother to establish a connection with her infant (Wigert et al 2006 p39). This is the second major theme identified in this review of literature. Nurses who are sensitive and supportive to the needs of new mothers can help guide and strengthen maternal responses to their infants (Karl et al 2006 p258). Therefore, mothers who experience care from nurses are more likely to build a positive and connected relationship with their infant (Karl et al 2006 p.258). The two sub-themes, psychosocial support and communication are presented in the following section.

Psychosocial Support

A mother's experience of having her baby admitted to a neonatal intensive care unit is often described as an 'emotional chaos' (Flacking et al 2006 p73). The unfamiliar environment can cause feelings of anxiety, apprehension and exclusion and limit mothers' ability to verbally express their individual needs (Flacking et al 2006 p73). Six studies indicated that positive psychosocial support by nurses helped to facilitate mother-infant attachment within the neonatal intensive care unit. Of note, nurses who provided support, assistance, privacy and had a positive and encouraging attitude towards mothers throughout their experience helped to alleviate maternal anxiety (Johnson 2007 p.572; Neu 1999 p.163). Further, mothers gained satisfaction and confidence from nurses who provided education, guidance, encouragement and emotional support throughout new experiences in the neonatal intensive care unit (Johnson 2007 p571; Mok and Leung 2006

p730). This became their source of strength and knowledge, helping to alleviate stress and be close to their baby (Mok and Leung 2006 p733).

In Sweden, a study of 25 mothers whose infants were admitted to neonatal units felt that they were 'encouraged and empowered' to participate in their infants cares by some nurses while feeling disempowered and unsupported by others (Flacking et al 2006 p75). This study highlighted the fact that nurses who were supportive and non judgemental were able to develop trustful staff-mother relationships (Flacking et al 2006 p77). When mothers experienced trustful bonds with nurses their self esteem was enhanced (Flacking et al 2006 p75). This study highlighted that nurses have the authority to reject or include mothers and are crucial in assisting the mother to become involved and develop a mother-infant bond (Flacking et al 2006 p79). Orapiriyakul et al (2007 p261) proposed that nurses need to work together with mothers to support their emotional grief and concern to help them work through the crisis situation and attach to their baby. Therefore the degree of intimacy mothers achieved with their infant is largely dependent on the nature of the social and emotional environment and support created by the nurse (Fenwick et al 2008 p80).

Communication

The importance of mother-nurse communication to assist in mother-infant attachment was reported in three studies. All agreed that nurses who communicated with mothers by providing constant information and updates on the baby's health condition, helped mothers to understand their health needs which eased anxiety (Orapiriyakul et al 2007 p259; Mok and Leung 2006 p730; Fenwick et al 2001 p586). Fenwick et al (2001) asserted that communication in the form of 'chatting' is a way of facilitating mothering in the neonatal unit. This engagement was highly valued by mothers and helped them to feel relaxed and establish confidence within the unit (Fenwick et al 2001 p586). Most significantly for this review, it facilitated a sense of control and connectedness with their infant (Fenwick et al 2001 p586).

DISCUSSION

This review of the literature suggests that admission to the neonatal intensive care unit restricts the natural process of attachment and that many mothers struggle to get connected with their infant. This study also concludes that nurses who encourage mother-infant interaction through kangaroo care (KC), breastfeeding, participation in routine care, alongside mother-nurse interaction through psychosocial support and effective communication, are central to helping the vital connections between the mother and her infant.

KC has a positive, multidimensional impact on mother-infant interaction and attachment, infant development and self regulation as well as the mother's mood and behaviour. However, there were also expressed concerns related to infant safety (dislodging of equipment), time restraints and nursing shortage to supervise the technique (Chia and Sellick 2005 p25). Because KC has been acknowledged in promoting mother-infant attachment and parental confidence, nurses are in a unique position to initiate such practices and facilitate this important mother-infant acquaintance. However, Hunt (2008 p48) states that KC is not a standard practice in every hospital. Therefore, effective practice policies need to be identified and implemented.

Major barriers have been highlighted with the practice of KC, such as infant safety, nursing staff reluctance, nurses' fear of something going wrong, minimal staff and time constraints (Chia and Sellick 2005 p25; Engler et al 2002 p150). A national survey of the United States of America indicated that a lack of guidelines, experience and information were major barriers towards the use of KC (Engler et al 2002 p150). Engler et al (2002 p151) suggests that 'nurses need educational offerings highlighting the knowledge and skills needed to provide KC safely and effectively'. Nurses need further experience, support, evidenced-based policies and procedures from knowledgeable practitioners and educational offerings that emphasise the value of KC to the mother and infant (Engler et al 2002 p151). This is also supported by Wallin et al (2004) who highlight

that evidence based guidelines are essential, as a lack of protocols will inhibit the provision of KC in both general wards and NICUs. Raby et al (2008 p199) also acknowledge, that not all mother-infant dyads within the neonatal intensive care unit require the same amount of care and relevant staffing guidelines for patient-nurse ratios do not consider infants with complications or additional needs. Therefore, to minimise the perceived barriers by nurses to use KC, addressing appropriate evidenced based standards with consideration to staffing for KC practice may assist in a successful KC experience and facilitate mother-infant attachment.

Breastfeeding has also found to be extremely important to mothers of term and preterm infants in contributing to care and being close to their baby (Griffin 2006 p100). This is supported by Flacking et al (2006 p74) who suggest that once an infant is medically stable, breastfeeding is a method that can facilitate mother-infant attachment. To promote this personal interplay Karl et al (2006 p259) also highlight breastfeeding as a supporting intervention that can be encouraged by nurses to maximise contact between mothers and their babies. Therefore given that breastfeeding is known to support the mother-infant attachment process, it is surprising that a review of the literature provided minimal results. Further research is required into national best practices for implementing breastfeeding in the neonatal intensive care unit to support mother-infant attachment.

In the beginning parents are often spectators and become independent caregivers supported by nurses when preparing for discharge from the neonatal intensive care unit (Fegran et al 2008 p 369). However some health professionals remain concerned that maternal presence can interfere with specialised medical care (Martinez et al 2007 p.242). Martinez et al (2007 pp42-45) found mother involvement to be supported, only if it does not invade specialised care, proposing that maternal presence can interfere with work dynamics, especially during complex procedures and clinical tests. Alternately, Franck and Spencer (2003 p35) argue that nurses should take every opportunity to encourage and educate mothers in participating in their infants care, while considering all factors that might influence safe parental participation to facilitate mother-infant attachment. Similarly, Fegran et al (2008 p369) suggests that it is vital for mothers to maintain a close relationship with the primary nurse to meet the demands of increased participation. Practice standards should therefore reflect a commitment to assisting parents to achieve a high level of contact and participation in their infants care.

For many mothers visiting their baby in hospital, the competing demands of caring for other children, managing paid employment and the family home resulted in exhaustion (Fegran et al 2008 p367). The development of a trustful relationship with nurses in the unit was important to mothers during this stressful period (Fegran et al 2008 p368). Nurses need to consider financial and social difficulties that parents may experience as a result of having their infant hospitalised (Eriksson and Pehrsson 2002 p28). This psychosocial support from nurses may assist mothers to deal with these multiple and competing demands and therefore have time and energy to connect with their infant. Nurses are part of the formal networks that mothers turn to for support. Nurses therefore need appropriate education about the psychosocial needs of mothers. Staff education and policies need to be evaluated regarding support networks for mothers to minimise stress. Patient-nursing ratios need to be considered to accommodate mothers' psychosocial needs as many mothers require more support than what they receive (Mok and Leung 2006 p733).

The findings of this review also show that mothers of infants in a NICU strongly conveyed the need of support, trust and in particular verbal information to help them to interact and understand their infant's needs. Open communication is considered a fundamental principle to successful family centred care but can be a major challenge for mothers and nurses within the NICU environment (Johnson 2008 p55). Nurses need to care about the way in which mothers feel about themselves and be supportive

and respectful of the mothers input (Karl et al 2006 p260). Nurses who engage with mothers are good listeners and share their observations with the mother (Karl et al 2006 p260). They also talk about the infant with the mother, asking open ended questions which allow the mother to feel like they are 'good' mothers, who are involved in their baby's care (Karl et al 2006 p260). Neonatal staff must act as role models, be open to answering questions and be supportive of the mothers concerns (Fegran et al 2008 p369; Franklin 2006 p.82). Therefore nurses need to be aware of their authority and positively assert non-judgemental, trustful and open relationships with mothers. Practice standards should reflect nursing commitment to support open relationships where nurses engage with mothers to ease their anxiety. Staff education should aim towards positive communication and support to provide family focused care.

CONCLUSION

The process of attachment is complex and is influenced by a number of factors including environmental circumstances, the infants and mothers' health status, emotional grief and the quality of nursing care (Orapiriyakul et al 2007 p260). This review of the literature has shown that the neonatal intensive care unit environment and nursing staff can restrict the natural process of attachment for many mothers and their infants. The mother-infant attachment process can be highly influenced by mother-infant and mother-nurse interactions. The key recommendations from this review are that nurses need to minimise mother and infant separation by promoting mother-infant interaction through kangaroo care, breastfeeding and participation in care. This review has also identified that promoting nurse-mother interaction through psychosocial support and communication by establishing a trustful and caring relationship can enhance the mother-infant attachment process. Therefore increased knowledge and evidenced based research is needed to help implement these practices to assist the mother-infant dyad. The nurse must consider the shared needs of the mother and baby by incorporating technical expertise with family focused care. Nurses working in neonatal intensive care units need to construct nursing care of the infant towards the mother-infant dyad, with roles and responsibilities that incorporate mother-infant and mother-nurse relationships in support of the mother-infant attachment process.

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