A literature review of parents' experiences of kangaroo care in the neonatal unit

Kangaroo care, a widely used method of care delivery in neonatal units, is the practice of holding an infant skin-to-skin on the chest, under clothes, in only a nappy and sometimes a hat. Much research explores the benefits of this for the infant; however, there is less holistic knowledge about the experiences of parents who deliver this care. This article summarises a review of the literature presenting parents' experiences of providing kangaroo care in the neonatal unit.

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Keywords

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Key points

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1. Parents experience mixed emotions regarding KC and these can differ between mothers and fathers.
2. Involving fathers early can have a positive influence on the attachment process, which further supports the mother.
3. The support available on the unit affects parents' experiences of KC.
4. Healthcare professionals can utilise KC to promote family-centred care and parental involvement.

Kangaroo care (KC) was first presented in 1983 in Colombia by two doctors in response to a shortage of incubators and high hospital infection rates.[1] Since then much research has been carried out that gives evidence to suggest many benefits of this practice.[2] Some positive effects of KC include better infant thermoregulation,[3] improved breastfeeding rates[4] and enhanced mother-infant bonding.[5]

Currently KC is carried out worldwide and is seen to be beneficial in both low and high-income countries.[6] Neonatal nurses have an important role in encouraging and facilitating KC[7] and in supporting the use of this technique in the neonatal unit (NNU).[8] The term nurse will be used for the remainder of this article, as the literature and research do not always differentiate between the term nurse and neonatal nurse and the two terms are used interchangeably.

Although there is a wealth of knowledge about the benefits KC can bring to the neonate, there is not much information concerning parents' experiences of providing this technique to their infant, which is the aim of this literature review.

Inclusion criteria

- Articles published between 2003-2013
- Articles written in English
- Articles from peer-reviewed journals
- Articles with abstracts relevant to the chosen topic
- Articles published worldwide

FIGURE 1 Inclusion criteria for the literature review.

Methodology

A systematic search strategy was adopted in order to retrieve relevant papers. Planning and implementing a systematic search can eliminate researcher bias and allow all relevant literature to be examined.[9] The online host platform EBSCOhost was used through the City University London electronic library to access and search selected databases. Ovid online was also searched; however no relevant papers were retrieved using this platform. Keywords, truncations and Boolean operators were used. Inclusion criteria were consistently applied in order to generate the most relevant search results for the literature review (**FIGURE 1**).

Nine relevant papers were systematically selected (**TABLE 1**). The selected research papers comprised qualitative, phenomenological research methods, observational and case studies. All the papers clearly stated the aims of the research, which were to investigate either the mother's, father's, or both parents' experience of providing KC in the NNU. Some of the research papers used face-to-face interviews to obtain detailed descriptions of their subjects' experiences of KC. Helth and Jarden[10] derived their interview questions from relevant studies and theories and the interviewer's professional knowledge as a nurse on the unit. Johnson[11] used a panel of three nurses working on the neonatal intensive care unit (NICU) to determine the interview questions, which were refined based on suggestions of two experts in qualitative,

Author details	Aim of study	Study group	Study type/methodology	Key results
Blomqvist et al (2011)[14] Sweden	Fathers' experiences of providing their preterm infants with KC	Seven fathers of babies on the NNU 28^{+0} to 33^{+6} weeks' gestation	Qualitative Interview Phenomenological	KC facilitated attainment of paternal role and fathers felt KC allowed them to do good for their infant
Helth and Jarden (2012)[10] Denmark	Fathers' positive experience of KC in the NICU	Five Danish speaking fathers <35 weeks' gestation Admission to NICU >1 week	Phenomenological Interview	KC helped fathers attain and understand their paternal role
Johnson (2007)[11] USA	Mothers' experience of KC for their premature infant in the NICU	18 mothers of infants in the NICU within the first two weeks of the baby's birth, after the third 60-minute KC session	Naturalistic enquiry design Interview	KC improved maternal confidence
Leonard and Mayers (2008)[12] South Africa	The experiences of parents providing KC to their preterm infant	Six parents actively providing KC to their preterm infants in hospital Infant weight >1kg	Phenomenological Interview	KC gave parents a sense of purpose and the role of primary caregiver and facilitated a connection with their infant
Reddy and McInerney (2007)[13] South Africa	Mothers' perceptions and experiences of giving KC	10 mothers of infants weighing <2kg who gave birth in KwaZulu-Natal Hospital between Feb-June 2003, and whose babies were admitted to the NNU	Qualitative Phenomenological One verbal interview with each mother	Mothers were initially apprehensive about KC but with support overcame this and felt positive about the experience
Roller (2005)[2] USA	Mothers' experiences of providing KC to their preterm newborn infants	10 English speaking women, including seven admitted to the NICU 32-37 weeks' gestation Infant weight: 1.5-3.0kg	Qualitative Phenomenological Interview	KC helped mothers attain maternal role and 'get to know' their baby
Blomqvist et al (2012)[7] Sweden	Identification of factors that parents perceive as supportive or as barriers to KC. Factors influencing the decision to discontinue KC	76 mothers and 74 fathers on the NICU Preterm infants 28-33 weeks' gestation	Descriptive study Questionnaire Qualitative analysis	Interventions for enhancing parents' opportunities for performing KC should address staff attitudes and practices and the NICU environment
Fegran et al (2008)[16] Norway	The development of relationships between parents and nurses in a NICU	Six mothers and six fathers in the NICU within the first week of a premature birth	Overt participant observation (160 hours) and in-depth interviews	Nurses need to work collaboratively with parents and discuss the process of involvement and detachment in order to contribute positively to family-centred care. Healthcare professionals should recognise parents' different starting points prior to commencing KC
Blomqvist and Nyqvist (2012)[15] Sweden	Mothers' experiences of continuous KC from birth to discharge	23 mother-infant pairs 31-41 weeks' gestation Infant weight: 1.7-3.7kg.	Descriptive study Questionnaire Qualitative analysis	Mothers' experiences were predominantly positive, provided that they received help and support

TABLE 1 A summary of the articles included in the literature review. **KEY:** KC = kangaroo care, NNU = neonatal unit, NICU = neonatal intensive care unit.

naturalistic methods. The other studies did not provide information on what or how questions were asked within the interviews. Four studies used purposeful sampling to select their participants;[2,10,12,13] Blomqvist et al[14] used a consecutive sample, and Johnson[11] did not specify the sampling method used to select her participants, although evaluated that the primary limitation of the study was the small homogenous sample, representative of the unit, hospital, and geographical location.

All the studies evidently took ethical considerations into account and each gives a detailed description of the analysis process. The credibility of the findings were discussed and evaluated in most of the research papers, except that of Johnson.[11] Although this research does not discuss credibility, it does evaluate the transferability of the data stating that although it may not be generalisable to other NICU populations without further research, it still adds to the description, knowledge and understanding of maternal experiences of KC.[11] Similarly Leonard and Mayers[12] state that, although the findings

may not be generalisable, they still add to an understanding of the benefits of KC for parents of a preterm infant. Most of the studies consider the findings with relation to current practice and identify new areas of research.

Themes

Three common themes emerged from the nine selected articles:

- primary apprehension
- parental role
- barriers to KC.

Primary apprehension

Evidence from this literature review suggests that parents can experience high levels of anxiety prior to commencing KC, which reduces with practice. Helth and Jarden[9] report that parents were fearful of harming their baby when providing KC. Findings from this literature review suggest these negative feelings reduce with more experience of providing KC.[2,14]

In contrast, Blomqvist and Nyqvist[15] report that mothers felt safe when providing KC and did not feel apprehensive about incidents happening while they provided the care. Fegran, Helseth and Fagermoen[16] found that mothers experienced contradictory feelings of wanting to hold their child but not daring to touch it.

Research indicates that parents have mixed emotions regarding KC and that parents have different feelings from one another, before and after commencing KC. Fegran et al[16] report that mothers experience negative emotions when they provide KC, as they feel it emphasises their helplessness to look after their own child. In contrast to the mothers, the fathers in the study were initially apprehensive and reluctant to hold and be close to their infant; however when they did hold their child they explained that it made them feel important as contributors to their infant's care.[16] Johnson[11] found that although mothers were initially apprehensive, with support, encouragement and experience KC helped them feel closer to their infant. Similarly, Leonard and Mayers[12] detailed that fathers feel intimidated and incompetent in the NNU setting, however practising KC helps them to feel as though they are fulfilling their parenting role.

The findings from the literature suggest that mothers and fathers can experience mixed emotions regarding KC, which differ from one another. The fathers' early involvement in KC might have a positive influence on the attachment process, which could create further support and encouragement for the mother. Healthcare professionals should recognise parents' different starting points prior to commencing KC and should individualise family-centred care to meet these differing needs.[16]

Parental role

KC assists parents in bonding with their infant and enhances the parents' ability to fulfil their role as parents and carers. The exchange of physical contact between the infant and parent increases parent-child bonding.[12]

Fegran et al[16] compared the parents' experiences. Whereas mothers experienced a need to regain the temporarily lost relationship with their child, fathers experienced the beginning of a new relationship. KC facilitates bonding and enhances maternal-infant acquaintance, even in the NICU environment; mothers found that KC calmed them and their newborns.[2] Johnson[11] reports that mothers felt 'needed' and 'comfortable' with the KC experience.

Helth and Jarden[10] looked at the experiences of fathers, who are historically viewed by society as breadwinners and family protectors and not as primary caregivers. The fathers talked of being able to protect their infants but believed their role was less important than the mother's. They report that KC may assist fathers to adopt a caregiver role and helps them to develop practical skills and competency in handling their infant so that fathers perceived that they were more confident in their parenting abilities and in the relationship with their child. Leonard and Mayers[12] suggest that KC enabled fathers to feel that they had a parenting role – a role they thought was held exclusively by mothers.

Likewise, Blomqvist et al[14] state that the fathers' opportunity for being close to their infants facilitated attainment of their paternal role in the NICU. KC allowed them to feel important and in control; that they were doing something good for their infant as active agents in their infant's care.[14]

In a case study of adoptive parents and their infants in the NNU, Parker and Anderson[17] report that KC is a positive intervention that helped the adoptive parents bond and connect with their infant as early as possible.[17] Therefore KC can be a useful practice for enhancing bonding for both biological and non-biological parents.

Barriers to KC

The third theme to emerge from the literature review suggests that the NNU environment may affect parents' experiences of KC. Roller[2] found equipment to be a source of concern for parents when they are transferring or holding their infant as parents worry about disconnecting wires or tubing. Blomqvist and Nyqvist[15] described the mothers' feelings towards the NNU environment as negative, with too much technical equipment, rooms that are too small and uncomfortable beds to sleep on. Blomqvist et al found that parents said staff did not have enough time to help position the infant on the parent's chest, which was a barrier to providing KC for their infant, although wireless and portable monitoring equipment supports parents in delivering effective KC.[7]

The given evidence suggests that the provision of a positive, comfortable environment is crucial to effective provision of KC. Healthcare professionals should assist parents in the positioning of the infant when commencing KC in order to facilitate care. Through utilising wireless and portable monitoring, parents can feel more confident and comfortable in providing KC.

The role and attitudes of nurses in promoting KC

Extended research has investigated the beliefs of nurses with regard to KC and parent-infant bonding. Chia et al[8] found that nurses strongly believe KC promotes parent-infant attachment as well as enhanced parental confidence. Similarly, Valizadeh et al[18] found that nurses believe KC improved mother-infant attachment and is a useful technique for enhancing a mother's involvement in her infant's care.

Healthcare professionals can utilise KC to promote family-centred care and parental involvement in the NNU. Attitudes are a major determinant of behaviour[8] and clearly nurses appear positive about the implementation and facilitation of KC, based on the above findings. This could, therefore, have implications for encouraging parents to engage in KC.

Mothers feel that the nurses' education and encouragement of KC is essential for

helping them to learn to care for their infant[11] and nurses strongly believe that informing, supporting and assisting both parents to implement KC is important.[8] Morey and Gregory[19] state that nurses play a crucial role in providing mothers and families with effective educational interventions that can reduce stress. Educational intervention for mothers on the high-risk antenatal unit effectively decreases the stress and anxiety associated with premature birth and the NNU (the educational intervention included an overview of the NNU, teaching and discussion led by a NNU nurse and a tour of the NNU environment).[19]

Overall, findings indicate that to increase parental confidence in caring for their infant and to reduce parental anxiety and stress, healthcare professionals should inform, encourage and assist parents with KC and familiarise parents with the NNU environment in general, including noises and equipment.

Conclusion

This literature review has investigated parents' experiences of KC within the NNU. Following critical appraisal, three common themes emerged from the nine selected journal articles: primary apprehension, parental role and barriers to KC.

KC can help parents attain their parental role and promotes parent-infant bonding and attachment. Nurses play a crucial role in encouraging, supporting and facilitating KC and can support parents of infants in the NNU by providing information and advice regarding KC as early as possible. It is the nurse's role to create a conducive environment in which parents can provide KC. Students, qualified nurses and midwives should be educated and updated on the practice of KC and its role in infant thermoregulation,[3] improved breastfeeding rates[4] and enhanced mother-infant bonding.[5] NNU management should support staff in the provision of KC through education, adequate staffing levels and appropriate equipment and environment.

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