


BMJ Open Separation after childbirth and the psychological, social and physical implications: ethnographic insights from a neonatal intensive care unit

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ABSTRACT

Objective To investigate the context of separations among mother, father and infant after childbirth, with a focus on the psychological, social and physical implications of these separations.

Design A short-term ethnographic study, which included participant observations and informal interviews. Data were analysed by a partly deductive content analysis inspired by Graneheim and Lundman.

Setting A '27-bed' Danish neonatal intensive care unit.

Participants The study included parents (n=19) who had an infant in need of intensive care and were separated after childbirth.

Findings The study identified an overarching theme of navigating family dynamics, caregiving and emotional challenges during separation. Three interconnected subthemes—Physical and virtual bonding as a necessity, Nurturing and caregiving shifts and Collective emotional impact of separation—shed light on the disjointed and emotional nature of parent-infant separation in neonatal care.

Conclusions The findings revealed that the first hours in the neonatal intensive care unit were often characterised by disjointed rather than unified care, as nurses balanced their focus across the family while parents navigated the emotional strain of separation. Organisational and structural barriers further challenged reunification, highlighting the need for care models prioritising proximity, family bonding and minimised separation.

INTRODUCTION

The first hours of an infant's life are of special importance and are often referred to as the 'golden hour' or the 'early sensitive period' for both mother and infant.¹ During this period, immediate and uninterrupted skin-to-skin contact is essential for fostering bonding, reducing parent and infant stress and supporting the infant's psychological adaptation to a life outside the womb.^{2,3} Evidence indicates that skin-to-skin contact is associated with improved thermal regulation, reduced risk of infection, better weight gain and higher rates of breastfeeding.⁴ Beyond physiological benefits, immediate skin-to-skin contact also

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ Short-term ethnography enabled the exploration of care practices and experiences in real-time clinical settings.
- ⇒ The researcher's familiarity with the neonatal intensive care unit setting facilitated contextual understanding but may have influenced participants' behaviour.
- ⇒ Data collection included both observations and informal unstructured interviews, enhancing methodological triangulation.
- ⇒ Observations were conducted over an extended period, during which architectural changes may have influenced clinical routines.
- ⇒ The study was conducted in a single neonatal intensive care unit, which may limit transferability of findings.

plays a significant role in fostering emotional bonding, strengthening parent-infant attachment, while also enhancing the parental experience during neonatal intensive care unit (NICU) hospitalisation.^{5,6} Consequently, minimising separation and ensuring parent-infant closeness during the early hours after childbirth is therefore considered a cornerstone in neonatal care. However, despite strong evidence supporting these practices, parent-infant separation remains common, often driven by structural, organisational and cultural factors.^{5,7,8} The division of care into distinct maternal and neonatal specialties, alongside the architecture of healthcare facilities and staffing practices, frequently disrupts opportunities for early contact and sustained closeness between parents and their newborn infants.^{9,10} Thus, it is decisive to optimise neonatal care practices towards a model of zero separation.¹¹ Accordingly, the WHO¹² holds a Global Position Paper with a vision of families as an inseparable centre around the entire maternal-infant care. One strategy of fulfilling this vision is the implementation of



couplet care, defined as the ‘*the provision of care for a sick or preterm newborn in close proximity to and coupled with the care for the mother from the birth of the infant*’.^{8(p20)} Couplet care provides an optimal environment for early, continuous and extended skin-to-skin contact in the NICU and has been found to reduce maternal stress, increase breastfeeding rates and enhance parental involvement and empowerment for parenting.^{13–15} However, despite growing evidence and evolving care towards zero separation, the practice of separating infants from their parents remains common practice in NICUs globally.⁷ To advance the implementation of couplet care and inform future care models, a better understanding of existing neonatal practices is needed. This includes exploring the context in which separation occurs—referring to the clinical setting, physical space, routines and relational dynamics that shape how separation is enacted and experienced by parents—and examining its psychological, social and physical implications. These three facets are used to capture the full spectrum of impact that parent–infant separation can have. A comprehensive understanding of the context and these facets is essential for the successful implementation of couplet care.

Therefore, the aim of this study was to investigate the context of separations among mother, father and infant after childbirth, with a focus on the psychological, social and physical implications of these separations.

METHODS

This study was a short-term ethnographic study,¹⁶ which included focused participant observations and informal interviews, conducted spontaneously, to obtain an in-depth understanding of the context and implications of separation after childbirth. Short-term ethnography involves short intensive research activities in ‘natural’ settings and in people’s everyday context.¹⁶ This method was chosen to capture the real-time, situated nature of parental separation and it enabled exploration of care practices as they unfolded. In contrast, traditional ethnography usually involves long-term observations, with a broader scope, which was not feasible or appropriate given the focused scope of our observations, clinical context and emotional vulnerability of parents during the early hours of separation. For qualitative assurance, the Standards for Reporting Qualitative Research were followed.¹⁷

Preconception

The study was grounded in the philosophical hermeneutic approach combined with an interpretive research perspective. This approach focuses on understanding lived experience and supports the in-depth interpretation of meaning, where knowledge is viewed as co-constructed between the researcher and participants.¹⁸ In combination with short-term ethnography, this approach enabled a nuanced understanding of how separation was experienced within a complex clinical setting. The approach also emphasises that preconceptions and prejudices are

essential for the interpretive process.¹⁸ As a reflexive strategy, the researcher’s (MB) preconception was uncovered prior to the observations through two interviews—one with a peer PhD student, researching couplet care, and another with a previously admitted mother from the NICU. MB’s preconceptions were derived from a combination of scientific literature and her own experience as a neonatal nurse. These preconceptions informed MB’s assumptions. It was assumed that the organisation of care contributes to an increasing separation of mother and infant after childbirth, particularly in cases where an infant requires hospitalisation in an NICU. This was attributed to a historical and ongoing division of medical specialties into obstetric and neonatal care, resulting in families being organisationally and physically separated after childbirth, as mothers often require postpartum treatment and care themselves. This implies a harmful separation for families in the first hours of becoming a family. Rather than being bracketed, these preconceptions were acknowledged as a part of the interpretive process, consistent with the hermeneutic stance.

Setting

The study was conducted in an NICU in the Capital Region of Denmark. Neonatal care is categorised into different levels based on the intensity of care required.¹⁹ The unit where the study took place is a mixed level II and level III unit, receiving infants requiring care of both levels. The unit is standardised to 20 infants and receives premature and sick infants from gestational age of 28 weeks. In November 2024, the unit moved into a newly built facility with 27 single-family rooms. The previous facilities accommodated 23 beds in different rooms for care: single-family rooms or shared rooms. The nursing care in the unit adheres to the philosophical mindset of family-centred care, where families are seen as a cohesive unit. The central pillars of family-centred care—respect and dignity, shared responsibility, knowledge sharing and partnership—are incorporated into clinical practice and care delivery.²⁰

The organisation of care

Traditionally, the caregiving and treatment of mother and infant are divided into two distinct medical specialties: neonatal care and obstetric care. Neonatal physicians and nurses are responsible for the infant, whereas the maternity unit is responsible for the mother’s care. Consequently, when both mother and infant require specialised care postpartum, they are admitted into separate units staffed by different healthcare personnel. Although parents generally can stay and be admitted alongside their infant in the NICU on a 24-hour basis, this continuity is often disrupted by the mother’s need for postpartum treatment. For example, following a caesarean section, the mother usually remains in the recovery room for approximately two hours before being transferred to the maternity unit for continued monitoring. Only thereafter can she be transferred to the NICU to reunite with

her infant. In the meantime, the infant is transported directly to the NICU, accompanied by a caregiver.

Data collection

The short-term ethnography consisted of focused participant observations and unstructured informal interviews in the NICU in May 2023, September–November 2024 and February–March 2025. All observations and informal interviews were conducted by MB. In total, 10 observations, accounting for 23 hours of observations, were conducted. The final number of observations was determined based on feasibility and data saturation.²¹ Observations continued until patterns were observed and no additional codes emerged.

The observations began with a grand tour inspired by Spradley's methodology of participant observation,²² which offered a structured and systematic approach to gathering in-depth data. The grand tour provided knowledge of the most general features of the situation of interest, followed by focused observations (mini tour). When relevant and feasible, the focused observation was supported by unstructured informal interviews, conducted spontaneously, to gain a deeper meaning of the observed behaviour. Data were collected through observations during the first hours following admission to the NICU. MB typically entered the patient room approximately 2 hours after childbirth, when only the father and infant were present, and the observation lasted until the family were reunited for the first time. In one case, only one parent was included in the observation. This was due to an ethical decision to end the observation early, as the father appeared affected by the presence of the researcher. Although the observation did not extend to the point of parental reunion, it provided valuable insight into virtual bonding and communication between parents during separation. The level of MB's participation was low; however, in two situations, MB had an active role where it was found unethical not to help or interfere, for example, in one situation a nurse was inexperienced

in taking blood samples and MB assisted. An observation guide (table 1) was designed and used for each observation. The observation guide was developed based on literature and experiences from previously admitted parents, being a part of a patient and public involvement group. Field notes were taken based on observations and informal interviews and were transcribed after every observation and stored on a logged drive.

Participants

The participants had no prior knowledge of MB and were purposively sampled. The inclusion criteria were as follows: Parents were Danish-speaking, and mother and infant were separated after childbirth. Participants consisted of 19 parents, all in their 30s, who all lived with a partner and 15 infants, comprising six singletons, three sets of twins and one set of triplets. The infants were primarily born via caesarean section, both acute and elective, whereas only one was born vaginally. Eight out of 10 parent couples had become parents for the first time. The gestational age of the infants ranged from 30 weeks to 39 weeks (mean: 36 weeks). Three of the 10 families had skin-to-skin contact immediately after childbirth, as their infants were stable enough to stay in the delivery room for a short while before being transferred to the NICU. The separation time, from childbirth until the whole family was reunited in the NICU, varied from 2 to 4 hours.

Data analysis

A dialectic and continuous interaction between data collection and analysis characterised the ethnographic study.²² The data consisted of free-text field notes which included both observed situations of separation and informal interviews, integrated directly into the field notes. A partly deductive content analysis was conducted, inspired by Graneheim and Lundman,²³ following five steps: (step 1) overall impression, (step 2) identify meaning units, (step 3) meaning units are labelled with a code, (step 4) codes into descriptive categories and

Table 1 Observation guide

Aim	Themes in the observation guide		
The aim of this study was to investigate the context of separations among mother, father and infant after childbirth, with a focus on the psychological, social and physical implications of these separations.	Separation and the reunion of the family	The relationship and communication between the nurse and the parents	Treatment and care of the whole family
	Questions	Questions	Questions
	What happens when the mother enters the patient room and sees her infant for the first time?	How is the nurse and the parent(s) positioned?	Who is taking care of whom?
	How long has the family been separated? (Hours from childbirth to reunion)	To whom is communication directed? Who is the communication aimed at?	What kind of problems arise?
	How do dynamics and partnerships change when the mother is present?	Is the separation addressed?	What are the reactions of the organisation?
	Is there a compensation for the physical separation?		
	Is there an awareness from the nurse that the mother is not present?		
	How is the process of becoming a mother supported or enabled?		

Table 2 Example of the content analysis, from meaning units to categories

Meaning unit (step 2)	Code (step 3)	Category (step 4)
<i>"I can see pictures and messages being exchanged between him [the father] and the twins' mother"</i>	Virtual bonding through pictures	Bonding through digital means
<i>"After a short while the father takes a selfie (picture of himself) with the twins still lying skin to skin. He sends it to the mother."</i>	Parental communication via phone	Bonding through digital means
<i>"...I can hear the woman's voice is choked with emotions. She (the mother) asks the father to turn the phone around, so she can see their newborn infant"</i>	The use of Facetime	Bonding through digital means

(step 5) categories into explanatory themes. The deductive element of the analysis stemmed from the observation guide. This guide highlighted key areas of interest, such as emotional responses, communication practices and caregiving, which informed the initial focus during analysis. However, the coding itself was carried out inductively, with codes generated from the data rather than pre-established. The categories and themes were reviewed and discussed several times with all authors in the research group to ensure triangulation of data analysis. [Table 2](#) illustrates an example of the content analysis and corresponding data extracted.

Patient and public involvement

In this study, six families with prior experience of neonatal care and separation after childbirth were actively involved

to provide insight based on their own experiences. They contributed with their knowledge and experiences to the grand tour observation and the observation guide, by highlighting key themes to consider during the observations ([table 1](#)). Additionally, some parents reviewed the findings, with their experiences mirroring the themes identified in the data, thereby helping to verify and support the interpretation of the findings. Furthermore, one mother conducted one of the preconception interviews with MB, contributing to the reflexive process prior to data collection.

FINDINGS

The analysis identified one overarching theme 'Navigating family dynamics, caregiving and emotional challenges' with three interconnected subthemes: 'Physical and virtual bonding as a necessity', 'Nurturing and caregiving shift' and 'Collective emotional impact of separation'. These subthemes were derived from seven categories, as illustrated in [figure 1](#), and are integrated into the presentation of the findings. The selected quotations in the study findings that follow are considered the most illustrative and are provided as direct extracts from the observational field notes. Where relevant, the observer's questions are included to provide context and support the interpretation of data.

Navigating family dynamics, caregiving and emotional challenges

The overarching theme encompassed the three interconnected subthemes, illustrating how separation after childbirth forced both parents and nurses to navigate the first hours in a way that is often disjointed rather than unified. [Table 3](#) provides an overview of the three interconnected subthemes and key illustrative observations that underpin the overarching theme. The observations highlighted the profound context and implications of separation, with a complex interplay between family dynamic, caregiving

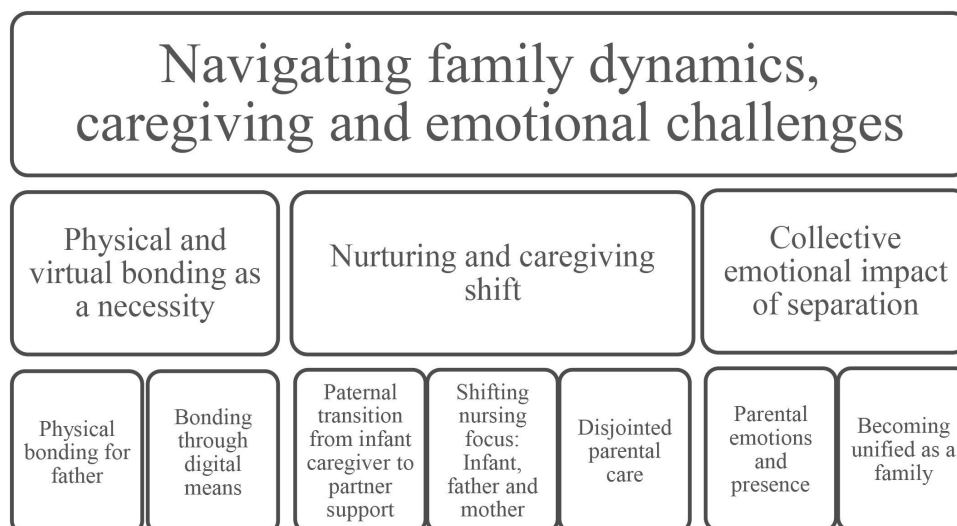


Figure 1 Illustration of the overarching theme, subthemes and categories.

Table 3 Subthemes along with key observations

Subtheme	Brief description	Key observations/illustrative example
Physical and virtual bonding as a necessity	Parents sought ways to connect and maintain contact despite physical separation; while fathers provided skin-to-skin contact, video—and phone calls became essential alternatives forms of bonding for the mother	<i>The father lies skin-to-skin in a hospital bed with both of his twins, covered by a duvet... A notification sounds from the father's phone—it is a message. After the third alert, he turns the sound off. I can see pictures and messages exchanged between him and the boys' mother.</i>
Nurturing and caregiving shift	Separation altered caregiving roles and routines, often requiring fathers to shift role and position, depending on the mothers' presence. Nurses had to adapt their focus between the infant, father and mother.	<i>The father's role shifted when the mother arrived and began lying skin-to-skin. From being the one providing close contact, he transitioned to taking care of the mother—offering her water and food, bringing their belongings from the maternity unit to the NICU, and ordering meals.</i>
Collective emotional impact of separation	Emotional strain affected not only individual parents but the family unit as a whole, often expressed through frustrations with the organisation of care and a deep longing for family presence and togetherness	<i>The father asks whether the mother can get up and walk here (in the neonatal unit). The nurse responds that she needs to go to the postpartum ward to be mobilised... He then asks if he can take the infant to the postpartum ward together with the mother. The nurse explains that the infant must remain in the neonatal unit for observation. The father finally asks if he can accompany the mother, leaving the infant alone.</i>

needs and emotional challenges. Nurses had to continuously balance their caregiving, shifting focus between the infant, mother and father—often unintentionally reinforcing the disjointed nature of care. Meanwhile, parents had to navigate the emotional process of separation and the journey towards reunification, striving to regain a sense of wholeness as a family.

Subtheme 1: physical and virtual bonding as a necessity

Fathers played a crucial role in providing skin-to-skin contact in the first hours after childbirth, fulfilling an essential need for physical bonding and closeness with their infant, while the mother was absent. Some fathers explicitly expressed their appreciation for this unexpected 'alone time' with their infant, recognising that, under typical circumstances, the mother would have been the first to experience this intimate bonding. One father reflected on this experience:

The father was asked 'What are your thoughts about being here alone, while the mother of your infant is somewhere else?' His first response was from the perspective of his newborn daughter: 'For her sake, I would rather have the mother here, but for myself, it is actually quite nice to be here alone' (Observation 8).

His words revealed a sense of ambivalence—an emotional duality prevalent among many fathers during the observations. While he acknowledged that he would have preferred the mother to be present, he also valued the opportunity to bond one-on-one with his daughter. While fathers and infants could bond through physical closeness, mothers often began their parenting journey from a distance, relying on digital means to maintain a connection. Virtual bonding through photos or video calls became not only a convenience but a necessity,

bridging the gap between the family. This new reality was captured in the following transcripts:

The father was asked if he [the father] is talking to the mother, and he replies 'yes'. As the mother speaks, the voice is choked with emotions. The mother asks the father to turn the phone around so she can see their newborn infant. They are speaking through a video call. This is the first time she has seen her infant (Observation 3).

For these mothers, the transition into parenthood began not in the embrace of their infant but through a screen. The beginning of parenthood unfolded in different ways and in separate units—one for the mother and one for the rest of the family. The maternity unit paradoxically became a childless space. In these moments, the phone became more than just a tool; it became a vital connection to their newborn infant and partner. While most parents had the opportunity to reconnect through digital means, one family experienced a deep sense of uncertainty. The mother had left her phone in her clothes, leaving them unable to contact each other. After 2 hours without communication, a physician offered to call the recovery unit:

...The physician asks the father how he is doing and whether the mother is okay. The father replies that the mother does not have her phone with her, so he is unsure of her condition or what is happening. The physician offers to call the recovery unit to check on the mother (Observation 9)

This sense of unawareness was equally present for the mother, who reflected on her experience of separation and waiting: *"It was strange to be separated, along with all the waiting time on the porter. We had no contact, and I [mother]*



didn't know anything. I [mother] kept thinking, 'Is he [the infant] alive'" (Observation 9) The physical and digital disconnect between parents not only created emotional distress but reinforced the feeling of isolation. The absence of communication—something most parents relied on as a lifeline—left the parents in a state of uncertainty.

Subtheme 2: nurturing and caregiving shift

The observations revealed distinct shifts in nurturing and caregiving, initially reflected in the changing roles and position of both father and mother. These shifts occurred as the father moved from being alone with his infant to being in the presence of the mother:

The father's role shifted when the mother arrived and began lying skin-to-skin with the boys. Having been the one providing close contact, he transitioned to caring for the mother—offering her water and food, bringing their belongings from the maternity unit to the neonatal intensive care unit, and ordering meals (Observation 5)

Initially, fathers were the primary caregivers providing skin-to-skin contact in the first hours after childbirth. As the mother arrived, the father's role shifted to supporting her emotionally and practically. While all fathers showed a natural commitment to infant care, some prioritised supporting the mother and expressed concerns about her well-being. In some cases, this led to infants remaining in the NICU alone, as fathers joined the mother in the maternity unit, highlighting the unintended consequences of navigating nurturing and caregiving. Fathers found themselves navigating dual roles, balancing their initial close physical connection with the infant and their emerging role as a source of emotional and practical support for the mother. Some fathers expressed that, despite their own worries and the difficulty of being separated, they believed the experience must be more challenging for the mother. In doing so, the fathers downgraded their own feelings and anxieties, prioritising the mother over their emotional struggle. Mothers, similarly, experienced a shift in position and roles, moving from being separated and left alone in the maternity unit to be in the NICU, providing skin-to-skin contact with their infant. This shift was also marked by moments of asynchronous information between mother and father:

The mother shares that she found it difficult to come up here at first because her infant was connected to various equipment (respiratory equipment, feeding tube, electrodes, oxygen saturation monitor), and she didn't know what any of it was or what it meant [as she hasn't got any information by the nurse] (Observation 4)

A father also noted his frustration with this gap in communication, expressing that he would have preferred to receive information alongside the mother rather than being left to pass on the information himself. Just as the parents experienced shifts in their nurturing and

caregiving roles, similar transitions were evident in the care provided by nurses. Nurses had to adapt their focus, balancing their attention between the infant, the father and the mother - both during periods of separation and when the family was reunited:

The nurse turns to the mother and asks if she is okay. The mother responds, 'Yes, I'm just tired'. The mother leans back in the bed and closes her eyes. The nurse shifts her attention back to the father and infant, who is being fed with a syringe. The father mentions that he feels tense in the chair, adjusting his position, so the nurse helps him get more comfortable. The nurse then returns her attention to the mother, who remains in bed, and asks if she needs help with the breast pumping (Observation 1)

This observation illustrates how nurses navigated between caregiving roles, responding to the needs of both parents and the infant. In situations where the mother was not yet present, some nurses inquired about her, asking the father, "Have you heard anything about the mother" or "Do you know where the mother is". However, these inquiries were most often not followed by any action or response from the nurse after the father answered. Meanwhile, nurses carried out tasks such as feeding the infant or taking blood samples. Most communication was one-way, predominately focused on practical matters, and in some cases, there was a complete absence of information. The observations revealed a recurring tendency among nurses towards exempting liability, which contributed to a sense of disjointed care. This was illustrated by a neonatal nurse explaining the emergency call system to a mother:

... The mother asks, 'If it is an emergency for me?' to which the nurse responds, 'No, only if it is an emergency for the infants... or if you are unwell—but in that case, we would need to call the maternity unit'. The mother then asks if the call system connect to the maternity unit and the nurse replies, 'No, we must call them ourselves'. Then the nurse leaves the room (Observation 10)

The strict division of care responsibilities led to families not being seen as a cohesive whole, resulting in disjointed nurturing and caregiving. When mothers required assistance or felt unwell, they had to rely on an indirect communication system. One maternity nurse explained to a mother: "... You need to use the call system to reach the sweet nurses in the neonatal unit, so they can call us by phone" (Observation 8). This structural separation created a disjointed approach to care, leaving parents to navigate multiple systems rather than receiving holistic, family-centred care. The lack of joint care is further emphasised by limited resources available to parents in the neonatal intensive unit. For example, fathers were unable to access food while staying in the unit, while mothers' meals were provided in the maternity unit.

Subtheme 3: collective emotional impact of separation

In the hours following childbirth, the separation of mother, father and infant created a collective yet fragmented emotional experience, evoking mixed feelings that parents have to navigate. Parents found the separation and the organisation incomprehensible, a frustration compounded by the fact that the recovery and maternity units became a bump in the road to family reunification. For all families, the reunification process was marked by an endless waiting position. These moments of waiting left mothers feeling isolated, creating a collective timeless space where parents lost their sense of time. Despite standard practice requiring transfer to the maternity unit, one mother insisted on being taken directly to the NICU. Having experienced separation before, she was still deeply affected by:

... As soon as the mother hear the word 'separation', she begins to cry. 'Last time, I was just kind of stuck there [in the maternity unit]' she [the mother] said. The mother was afraid it might happen again, leading to another long separation... 'It feels so pointless lying over there [in the maternity unit] the mother added (Observation 7).

For the majority, the maternity unit became a place associated with fear—fear of being stranded indefinitely. However, for one mother, the separation was not a source of distress. Instead, she viewed it as an opportunity to rest: "...*The mother said that she was really exhausted and weaken, so she needed the rest. She could focus on herself and her recovery, knowing that their daughter was in good hands with the father*" (Observation 8). For this mother, separation was not a burden but a necessary pause, allowing her to recover while trusting her partner's care for their infant. Meanwhile, fathers found themselves in the difficult position of choosing between staying with their infant or supporting their partner—an emotional dilemma shaped by both organisational protocol and personal decisions. In some cases, fathers were instructed by the physicians to go to the NICU, while in others, parents had discussed and decided in advance where the father should be:

...The father stayed with the infant, feeling torn between supporting the mother and being with his infant, but they [the mother and father] agreed beforehand that he should prioritise being with the infant. The mother appreciated that the father was there to stay informed about the infant's status (Observation 1).

A particularly prevalent need throughout the observations was the desire for family presence and unity. However, this was postponed—first due to long waiting times for transfer between units and second due to maternal care needs, which forced further separation. Despite the parents' shared priority of being together, structural barriers dictated the timing and the nature of their reunification. When families were finally reunited in the NICU, moments of emotional connections between

parents emerged—reflected in their smiles, their conversations, sustained eye contact and, in some cases, tears of joy. This emotional reconnection was often followed by a physical moment of bonding, contrary to the virtual bonding when separated, between mother and infant:

The infant is placed skin-to-skin with the mother. The father stands by the bed, watching. 'Look, his eyes are open. They were closed the whole time he was with me, but now he's looking around'. Both infants open their eyes for the first time as they lie on their mother's bare chest. The father kisses the mother on her forehead (Observation 5)

However, while the emotional relief of being reunited was evident, the process remained physically and emotionally demanding. One mother struggled with exhaustion and the lingering effect after her caesarean section:

The mother is placed next to the cradle. She is smiling, being happy to finally be here, but at the same time she says, 'it is so difficult to be here, because I can't even sit or stand'. As she says this, she begins to cry (Observation 10)

Most parents expressed not only an emotional need to be together but also a physical one. Separation was not merely alleviated by being in the same unit; rather, there was a deep need to be close—to touch and care for their infant. An experience and connection most parents waited more than 2 hours to be a part of.

DISCUSSION

These findings offer new insight into the disjointed emotional and practical realities faced by parents, led by the complex navigation from both parents and nurses. The study highlights how hospital organisation and practices lead to disjointed caregiving, emotional strain and delayed bonding. The study advances the understanding of the context and the psychological, social and physical implications of separation and offers empirical support for systemic reforms and the implementation of couplet care in NICUs.

In this study, early bonding and closeness during the first hours after childbirth were both challenged by separation and supported in new ways. The paternal role in providing the first skin-to-skin contact highlights how the physical separation of mother and infant, though unintended, can foster a unique father–infant dynamic that might not have emerged otherwise. Historically, mothers have held the primary responsibility for caregiving. However, in a study about fathers' needs and masculinity dilemmas during neonatal admission, fathers expressed their wish to equally partake in caregiving and be 'the provider'—something that might not have happened if it had been an uncomplicated delivery.²⁴ Findings from this study indicate a change in the paternal role, from being the primary caregiver to providing partner support, when the mother entered the NICU. This aligns with research



where fathers were perceived as caregivers and breadwinners—fathers stated that their main role was to fulfil the mothers' needs and expectations.²⁴ The findings showed that fathers were often torn between staying with their infant or supporting the mothers, forcing them to leave one behind. Similarly, previous research identified this internal conflict in fathers, driven by a sense of ambivalence and the need to be present in two places at once.^{10,25}

This study's findings revealed that using the phone, not only as a communication tool but also as a means of bonding, became essential, allowing mothers to communicate with their partner and to see and hear their infants. A recent study examining parents' shared experiences of separation found that communication by phone provided emotional relief but also fostered feelings of concern.¹⁰ In contrast, in this present study, virtual bonding alleviated maternal concerns and allowed them to begin their journey into motherhood from a distance. The use of phones—particularly video calls—has become a 'requested solution' in care practices, to compensate for structural and organisational barriers that hinder physical proximity. Parents had a deep need to be close and to become unified, yet this need was postponed due to hospital routines, leaving parents with a sense of incomprehensibility of the organisation of care. A study examining the parental view on developing a close bond in the NICU found that physical distance, separate maternity units and hospital routines disrupted the dyadic relationship, making the experience unnatural and difficult for parents to cope.⁵ Similarly, in our study, the organisational and structural barriers made it difficult for parents to navigate and balance separation and closeness. When unified in the NICU, mothers expressed that merely being in the same unit was not enough—they needed to be physically close, either by providing skin-to-skin contact or simply touching their infant. These findings align with previous research, where physical touch played a major role in parents' closeness experiences, while not always perceived as essential.⁵ In contrast, parents in our study viewed touch as one crucial aspect of their bonding experience.

The findings in this study revealed that the natural initial bonding process was often disrupted due to physical separation, leaving parents to form connections and bond through alternative means. Bonding refers to the parents' emotional connection to the infant, which is often believed to begin immediately after birth.²⁶ Research by Klaus and Kennell²⁶ emphasises that early skin-to-skin contact strengthens this bond and influences how well parents form an emotional connection with their infants.²⁷ In this study, hospital routines and structural barriers delayed and limited early contact, thereby disrupting both the initial and ongoing connection between parents and their infant. When separation occurs, as it often does in neonatal care, it not only disrupts the natural bonding process but may also impact on the infant's attachment to their parents. According to Ainsworth and Bowlby,²⁸ attachment refers to the infant's

emotional connection to caregivers, and separation can interfere with the infant's developing sense of security in relation to these caregivers. Thus, facilitating closeness in the early hours after childbirth is crucial not just for the infant's attachment development, but for the psychological well-being and confidence of parents as they begin their caregiving journey.²⁹

In this study, the beginning of parents' caregiving journey was primarily shaped by disjointed experiences. These were often driven by the division of care responsibilities, which contributed to a diminished sense of family unity. Within the framework of family-centred care, nurses are responsible for supporting both infants and their families, recognising them as a single unit of care.³⁰ However, in this study, separation led to shifts in caregiving roles for both parents and nurses, challenging the principles of family-centred care. The observations revealed that nurses primarily engaged with families in a task-oriented manner, focusing on practical care rather than emotional care. One reason may be that the emergency and intensive care setting often prioritises a task-orientated, medical-technical approach instead of family-centred care. A Swedish study similarly found that medical-technical care was valued higher and typically carried out first, regardless of the situation, consequently reducing parental involvement.³¹ Another aspect which was challenged by the separation and division of care responsibilities was the communication. The lack of inter-professional communication, combined with inconsistent or unclear communication experienced by parents, reinforced the disjointed nature of care and the sense and reality of separation, further undermining family-centred care. These findings are consistent with previous research where inadequate communication intensified and, in some cases, even caused the separation between mother, infant and father.^{10,32} This highlights the importance of training nurses in communication skills and underscores how critical communication is to parents' experiences of separation and NICU admission. One way to address this is through educational programmes for nurses. Research has shown that systematic and structured communication training can strengthen the family-centred culture within the unit and benefit infants, parents and staff alike.³³ Implementing such programmes may not only strengthen the family-centred culture in neonatal care units, but also help reduce the sense of separation experienced by families—an issue highlighted in this study.

Hospital routines and structural barriers further delayed parental reunification, with prolonged waiting times for transfer between units and the division of medical specialties, requiring families to interact with multiple nurses. These challenges are found to prolong separation and reinforce the disjointed nature of care, making it harder for parents to regain a sense of wholeness as a family.^{7,32} To counteract the challenges of prolonged waiting and the division of medical specialties, an oxytocin-based maternal–infant care model is suggested as a contrast to the traditional practice of separating small and sick infants

from their mothers.³⁴ This model promotes couplet care, where mother and infant are jointly cared for.^{8 34} The findings in this study revealed a need to optimise family-centred care. Similarly, a study exploring situations of separation found that collaboration between units or within individual care teams is essential to achieving zero separation.³² By prioritising proximity, skin-to-skin contact and parental involvement, these approaches could mitigate separation's emotional and practical consequences, fostering a stronger and earlier sense of family unity.

Strengths and limitations

The use of short-term ethnography and informal interviews, combined with a philosophical hermeneutic and interpretive approach, allowed for a nuanced understanding of the context and meaning-making processes surrounding parent–infant separation in neonatal care, adding depth and credibility to the findings. However, the informal and spontaneous nature of the interviews may have limited the consistency and depth of data compared with those guided by a structured interview guide. The findings and data were discussed with the coauthors among some with no experience in neonatology, to enhance credibility. Thereby, adding both an outsider and insider perspective to triangulation in the analysis. To further support and verify study findings, direct data extraction and quotes were included to illustrate the observations. Moreover, the findings were reviewed by members of a patient and public involvement group to improve validity, ensuring accuracy and resonance with the findings. As a notable strength, we ensured information power³⁵ by collecting rich, in-depth data until no new themes emerged. The level of MB's participation during the observations was intended to be low and was kept to a minimum. However, MB interacted and took an active role in two situations. While it cannot be ruled out that this may have influenced the behaviour of those being observed, both situations were procedure-related and not directly relevant to the focus of the study. Therefore, the impact is considered minimal and unlikely to have affected the findings. Further, MB is a neonatal nurse, and her professional background may have shaped the observations and analysis. However, it was perceived as a strength that MB was familiar with the NICU environment, allowing a deeper understanding of the context and nuances of the intensive care setting. To mitigate potential influence, MBs' preconception was uncovered prior to data collection.

The research was conducted over an extended period, during which the unit moved into newly built facilities, while the organisation of care remained consistent. Even if the organisation of care remained consistent, shifts in the physical space or layout may have influenced how people interacted, or how certain processes were carried out, which could affect the transferability and consistency of the data collected. However, it is not perceived that these changes directly impacted the findings, as the essence of the prechange and postchange observations

remained similar. The data were collected from a single Danish NICU, which may limit the transferability of the findings to other countries and healthcare settings. However, with a careful and detailed description of the organisational and cultural context, it is possible to draw parallels and adapt insight to other NICUs. The themes are likely to resonate in other high-income healthcare systems aiming to improve family-centred care and implement couplet care models. Additionally, most participating families were first-time parents, and several were families of multiples. These factors may have influenced the way separation was experienced and navigated and should be considered when assessing the transferability of the findings. Future research could explore a broader range of family experiences to enhance the applicability of results across different family structures and levels of parenting experience. In line with this, due to feasibility and logistical constraints, it was not possible to conduct observations in the maternity unit. While some insights were gained through secondary accounts—such as video calls—future research would benefit from including direct observations in the maternity unit to provide a more nuanced and comprehensive understanding of the maternal experience of separation after childbirth.

CONCLUSIONS

This study explored the context of separation among mother, father and infant after childbirth, focusing on the psychological, social and physical implications of separation. In conclusion, the findings revealed that the first hours following childbirth during hospitalisation in the NICU are often marked by disjointed rather than unified care. Nurses have a task-orientated approach and are required to navigate competing demands between infant, father and mother, unintentionally reinforcing the disjointed nature of care. Meanwhile, parents faced the emotional strain of separation and the uncertainty of delayed reunification, often navigating this experience with limited communication and support. Organisational structures and the division between maternity and neonatal care further complicated the family's sense of unity and the establishment of a shared parental role. These insights underscore the importance of couplet care models that minimise separation, ensuring that the 'golden' first hours after birth foster closeness rather than distance, when admitted to the NICU.

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