

## **Night-time on a postnatal ward: experiences of mothers, infants, and staff**

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### **Abstract:**

This chapter illustrates an alternative approach to video ethnography, in which video case studies are described alongside semi-structured interview responses to detail night-time challenges of mothers, newborns, and hospital staff on a postnatal ward. Data from three original, inter-related research projects were combined. We uncovered five themes: maternal need for support, response to infant cues, negative experiences, bedsharing as a way of coping, and insufficient staffing. In detailing these issues, we draw attention to previously unknown or unacknowledged obstacles for new mothers and their infants, as well as the constraints on the staff involved in their care.

### **Introduction**

This chapter takes an experiential and emic approach to understanding night-time postnatal care in a UK hospital. We combine data from semi-structured interviews with descriptive video case studies to explore the experiences of mothers and their newborns, together with those of the postnatal ward staff. We interpret maternal and infant experiences and needs as biosocial processes. Cultural influences underlie the expectations, experiences, and interpretations of care on a postnatal ward at night. Research employing an experiential emic-focussed approach can help to identify obstacles to optimal care for the mother-infant dyad and improve patient and staff experience of the hospital environment (Kleinman et al., 1978).

At the outset of this work, we were interested in understanding the barriers to breastfeeding on the postnatal ward (Ball et al., 2006). Previous research had identified maternal-infant separation as a key factor in the early supplementation of infants with human milk substitutes (e.g. formula, water) (Moore et al., 2012). In order to explore factors influencing breastfeeding outcomes, we conducted three related randomised controlled trials (RCT) that tested the effects of the postnatal ward proximity of new mothers and their infants for particular participant groups 1) un-medicated vaginal births, 2) scheduled caesarean section births, 3) all term births. All of the participants in these studies expressed a prenatal intention to initiate breastfeeding. As part of these trials, we quantified maternal-infant interactions and infant feeding outcomes according to randomised infant sleep location: standard rooming-in with a stand-alone bassinet adjacent to the maternal bed, a side-car bassinet that locked onto the frame of the maternal bed and bedsharing. Observations were conducted overnight under infra-red light. The two bassinet types are shown in Figure 1.

[Insert Figure 1 here]

Primary outcome data from the three original trials are published in Ball et al. (2006), Ball et al. (2011), and Tully and Ball (2012). Participants were asked to evaluate their night-time postnatal ward experiences during follow-up semi-structured interviews. For this chapter, qualitative reports were triangulated with descriptive case studies extracted from the video footage captured as part of these trials, building upon a method previously implemented by Volpe et al. (2012).

### **Background**

While maternal and infant sleep behaviour and night-time infant care have been extensively studied in home and laboratory settings (Baddock et al., 2006, 2007; Ball 2006; McKenna et al., 1997 Teti & Crosby, 2012; Volpe et al., 2012), the night-time and sleep-related experiences of mothers and newborn infants during their postnatal hospital stay has received only limited research attention. This is, however, an important issue; in 1989 the World Health Organization and UNICEF introduced the Baby-Friendly Initiative (BFI),

including “10 Steps” for childbirth settings in support of promoting successful breastfeeding (WHO 1989). Despite the fact that Step 7 recommends that mother and baby remain together day and night during the hospital stay, in many clinical locations mother and baby are still separated at night (Kurth et al., 2010). Night-time rooming-in (the practice of keeping infants in the same room as their mothers) is common practice throughout Europe (Moore et al., 2012) and becoming increasingly prevalent in the US, as hospitals there seek Baby-Friendly accreditation (Holmes et al., 2013). Rooming-in is associated with an increased prevalence of breastfeeding at hospital discharge in comparison with postnatal unit nursery care (Moore et al., 2012; Murray et al., 2007; Yamauchi and Yamanouchi 1990). However, Svensson et al. (2005) found that negative staff attitudes toward night rooming-in implicitly suggested to mothers that physical closeness with their baby during this period was not important. Furthermore, mothers who reported preference for infant nursery-care expressed more concern about their sleep and that of their babies while in hospital. Such concerns may be misplaced: a study examining the impact of rooming-in on maternal and infant sleep reported no difference in maternal sleep duration or quality between rooming-in or nursery care (Keefe 1988), while infants experienced more quiet sleep, less crying, and more contact during rooming-in than during night-time nursery-care (Keefe 1987). The benefits to mothers and infants of rooming-in, therefore, include facilitating successful breastfeeding initiation, enhanced bonding, and, for the infant, obtaining both comfort and sleep. However, for mothers, rooming-in can also present difficulties. An implicit expectation of rooming-in is that mothers or their family member/s will perform all infant care-giving activities, particularly at night when minimal staff assistance is available. Yet, family member presence may be restricted by hospital protocol. Additionally, maternal-infant interactions may be hindered by maternal pain, discomfort, and fatigue – particularly following childbirth with medical interventions such as episiotomies or operative delivery. The studies discussed here examined sleeping arrangements within the postnatal ward rooming-in environment. The purpose was to document the experiences associated with the key intention of rooming-in: mothers and newborns together to facilitate exclusive breastfeeding (Ball et al., 2006; Ball et al., 2011; Tully and Ball, 2012).

### **Theoretical approach**

This chapter presents data gathered via a combination of methods chosen to elicit the emic and experiential perspectives of women (both patients and staff) inhabiting a UK tertiary hospital postnatal ward at night. An emic approach (sometimes referred to as “insider,” “inductive,” or “bottom-up”) takes as its starting point the perspectives and words of research participants. In taking an emic approach, a researcher tries to put aside prior theories and assumptions in order to let the participants and data “speak” to them and to allow themes, patterns, and concepts to emerge (Lett, 1990). This approach is at the core of the Grounded Theory method, and is often used when researching topics that have not yet been heavily theorised. Some of its strength lies in its appreciation of the particularity of the context being studied, in its respect for local viewpoints, and its potential to uncover unexpected findings.

In contrast, an etic approach (sometimes referred to as “outsider,” “deductive,” or “top-down”) uses as its starting point theories, hypothesis, perspectives, and concepts from outside of the setting being studied. A researcher who takes an existing theory or conceptual framework and conducts research to see if it applies to a new setting or population is taking an etic approach (Lett, 1990). One of the strengths of the etic approach is that it allows for comparison across contexts and populations, and the development of more general cross-cultural concepts (Morris et al., 1999).

Drawing upon emic experiential perspectives is a central component of anthropological enquiry. We accomplish this here by combining observations of night-time events captured via video with maternal and staff experiences reported during interviews. Although this is not ‘video ethnography’ in its proper sense, as we did not include discussion of events observed in the videos with the participants, the integration of the video and interview data provides a unique and useful approach for illuminating and understanding the

night-time experiences of the mothers and staff of a UK postnatal ward – a setting where indirect observation via video triangulated by participant accounts is more feasible and acceptable than direct participant observation.

### **Research methodology: combining qualitative and observational data**

Currently on UK postnatal wards, night-time is a period when visitors (including fathers) are normally prohibited, the frequency of patient-staff interactions are reduced, and mother-infant interactions are hidden from view by darkness and by curtains drawn around the beds. Consequently, in combining interviewing methods with naturalistic video observation, we had insight into experiences that would typically be out-of-sight to both the staff present on the hospital ward and researchers.

Participant responses about night-time infant care are also limited by memory, so video recording on the postnatal ward enabled an objective view of mother-infant behaviour with which to corroborate recalled experiences. Additionally, the observational data provided a more general insight into previously unacknowledged maternal-infant interactions during night-time postpartum hospitalisation. Observational data captured individually unique as well as common actions -- important because behaviour is “not a static thing to be discovered” (Banks, 2001: 112). Health-related behaviours are increasingly conceptualised as a network of connections (Panter-Brick and Fuentes, 2008) and “while the overall pattern may be predictable, the interacting elements and process that produce [an] outcome are not” (Downe and McCourt, 2004: 14).

### **Qualitative data**

Anthropological investigations are traditionally characterised by participant-observation. However, in the context of healthcare settings, the opportunity to have an extended presence can be restricted and problematic (Wind, 2008). Participation would mean becoming part of what is taking place – but when the researcher does not fit into the category of ‘visitor,’ ‘nurse/doctor,’ or ‘patient’, the level of active engagement in events and activities within the hospital is limited. As it is therefore not possible to directly experience the night-time postnatal ward interactions as a researcher, we considered semi-structured interviews in conjunction with video footage to be a feasible and valuable alternative to traditional ethnography.

The relaxed format of the semi-structured interview method enables the researcher freedom to seek both clarification and elaboration on participant responses. This approach also provides a forum for the pursuit of topics that may not have originally been considered by the researcher as important, but may develop into significant themes within the findings (Bryman, 2008), and where the researcher has limited opportunities to interview someone (Bernard, 2002). In this series of studies interviews permitted insight into the perinatal experiences important to mothers. Carolan (2006) asserts that these data are particularly useful for advancing ‘woman-centred’ care by assisting midwives and other health professionals to subsequently provide more meaningful support.

### **Observational data**

In the original studies upon which this chapter is based, the video data were analysed ethologically via quantitative coding of the frequency and duration of discrete behavioural categories defined according to an exhaustive and mutually exclusive catalogue of behaviours (behavioural taxonomy or ethogram) in order to permit statistical comparisons between groups (Martin and Bateson, 1993). However, in the present chapter we examine a selection of the videos as case studies, analysing them descriptively and in combination with maternal reports. The video case-study technique was used by Volpe et al. (2012) to understand the nature of rare experiences captured serendipitously during observational studies, borrowing the concept from learning studies (e.g. Goldman et al., 2006). Here we use video to illustrate and reinforce experiences described by participants, and reveal information about which midwives, researchers, and even (in some instances) mothers would be unaware.

## **The research studies**

Our data are drawn from three distinct but related research studies consecutively conducted on the same UK tertiary-hospital postnatal ward between 2002 and 2010. Ethical and institutional approvals were obtained from Durham University and the local NHS Research Ethics Committees. All three projects involved prenatal enrolment of women pregnant with singletons and randomisation of the infant sleep location for postpartum rooming-in. At the study hospital, continuous rooming-in with a stand-alone bassinet was standard practice for all healthy dyads. All three studies examined the effects of mother-infant sleep proximity on the feeding and sleeping outcomes of mother-infant dyads. All were RCTs where dyads were randomised to different bassinet conditions during continuous rooming-in. Random allocation was employed to ensure that the factors that might affect maternal-infant interaction, known and unknown, would be evenly distributed across the trial groups.

### *Study details*

Study 1 comprised an RCT of stand-alone bassinet, side-car bassinet, or bedsharing following unmedicated vaginal birth (Ball et al., 2006); study 2 comprised an RCT of side-car and stand-alone bassinet conditions following caesarean section childbirth (Tully and Ball, 2012), and study 3 comprised an RCT of side-car and stand-alone bassinet conditions for all mothers with healthy term births (Ball et al., 2011). Recruitment was conducted during pregnancy at prenatal clinics and classes. Enrolment for all three studies entailed the return of completed consent forms prior to childbirth and assignment of a study number. Exclusion criteria across the studies included premature delivery (< 37 gestational weeks) and intensive infant care. A research team member, who was not involved in recruitment, used a random-number table (studies 1 and 2) or a web-based randomisation service (study 3) to allocate participants to their groups. The first study, Ball et al. (2006), involved 64 mothers who gave birth vaginally to healthy term infants. These dyads were allocated to the stand-alone bassinet, a side-car bassinet, or bedsharing with the mother, using a bedrail. Intervention group participants (side-car or bedsharing) could revert to using the standard arrangement (stand-alone bassinet) on request.

The second study, Tully and Ball (2012), involved 35 term infants and their mothers who underwent scheduled, non-labour caesarean section childbirth. These participants were allocated to receive either the stand-alone bassinet or the side-car bassinet. The final study that we include here Ball et al. (2011); was a large trial of 1200 participants where childbirth mode was not an inclusion or exclusion criterion and the participants were allocated to receive either the stand-alone bassinet or the side-car.

In the first two studies, a researcher conducted a semi-structured interview with the mothers and then set up a small camcorder and long-play videocassette recorder in the mother's postnatal room. The camcorder, which had "night-shot" capability that permitted filming in complete darkness, was mounted on a monopod clamped to the foot of the maternal bed and connected to a videocassette recorder that was housed in an attaché case positioned under the bed. Participants used a remote control to start recording once they were ready to settle for sleep and were requested to let the equipment record continuously for the duration of the 8-hour tape. Mothers and their midwives could stop the recording at any point. Participants were encouraged to care for their infants as usual and disregard the camera. Daytime behaviour was not filmed because of the variable presence of visitors and their interactions with the mother-infant dyad. Hospital policy excluded visitors (including the infant's father) overnight.

As part of the third study, a sub-sample of 64 participants were interviewed in person or by telephone at approximately six months postpartum. Interviews with 19 postnatal staff from the participating postnatal ward were also conducted (Taylor, 2013). For the staff interviews, a purposive sampling strategy was employed to ensure that participants represented a range of employment grades. These face-to-face interviews were conducted in a private room within the hospital once all of the mother-infant participants from study 3

had been discharged from the postnatal ward. A small gratuity was offered to the participants of all three studies in the form of gift cards.

## **Analyses**

Interview responses were transcribed and thematically analysed by hand using a matrix format (study 1 and 2) or NVivo 8 software (study 3). The authors identified themes through an iterative process of grouping and regrouping the data. For this chapter, themes pertaining to night-time experiences of mothers and infants were selected; the themes presented below were also captured by observational video data. The latter had been ethologically coded using a behavioural taxonomy created in the Noldus Observer software package to categorise behavioural states and events. For the purposes of this chapter we reviewed the coded video data to find examples of behaviours or/experiences reported by participants during their interviews. The relevant video footage was then reviewed in real-time and a descriptive narrative account of the observation produced following the method implemented by Volpe et al. (2012).

## **Results**

Five themes regarding night-time postnatal ward experiences were identified where qualitative and observational data substantially corroborated one another (see Table 1). These themes are presented below.

[Table 1 here]

### ***Theme 1 – Maternal need for support***

Mothers' inability to independently access their infants while rooming-in at night was a prominent issue. Lack of assistance led women whose newborns were located in a stand-alone bassinet to make negative comments regarding this type of rooming-in arrangement. Struggling to cope with infant needs through the night, while not feeling like a "nuisance" to midwifery staff, was a considerable problem to women. The mothers expressed reluctance to use their call-buzzer for staff assistance and they reported disappointment that the structure of the stand-alone bassinet impeded access to their infants (see Figure 2).

[Figure 2 about here]

The challenge was particularly evident following caesarean section deliveries, after spinal or epidural anaesthesia during delivery, or among the mothers who were experiencing other pain or soreness. All women disliked the substantial manoeuvring they had to do to reach their newborns from the "awkward" and "clumsy" stand-alone bassinets. The corresponding maternal pain from these interactions was described as feeling as though they might "rip open". The mothers' "agony" was evidenced in videos by slow maternal movements and grimaces in the darkness. Further, many participants (not assigned to bedsharing) reported keeping their babies in the bed to avoid the need to repeatedly request help. Some women were particularly unhappy that their partners were not allowed to stay overnight:

*When he [husband] had to leave I would just start to cry...it was absolutely horrendous. I was totally alone, isolated.*

In contrast, participants who received a side-car bassinet (or in study 1, a bedrail to facilitate bedsharing safety) expressed positive and enthusiastic responses about the usefulness of these rooming-in arrangements. The main advantage of the side-cars was described as facilitating access to infants without the need for assistance from staff. Staff also spontaneously commented that they perceived a reduction in 'buzzing for assistance' when mothers were using side-car bassinets.

In one video of a mother-newborn dyad with a stand-alone bassinet, the woman sees her infant in the bassinet, leans forward, and winces as she slowly moves herself. It takes her several minutes to get up out of bed to stand next to the newborn. Then, after picking her

infant up, the mother grimaces again when sitting back in bed and leaning back with her baby. Another mother described a similar experience:

*You can't get out of bed after a caesarean section. [with the stand-alone bassinet] you are leaning over and pulling on the [incision] wound. I feel upset because you can't move as quickly [after caesarean section] when the baby is crying. It is more of a struggle in the night. I have to ask others to change the nappy in night and as a new mother, you want to do that yourself.*

The inability to fully care for infants while rooming-in with a stand-alone bassinet was repeatedly highlighted by mothers' hesitation to summon midwives for what could be considered straightforward tasks, such as placing an infant in a bassinet next to the bedside or changing the baby. One mother described the issue of infant access in relation to frequent night-time breastfeeding:

*When she was crying I had to ask somebody if she was OK and to help me because I had a completely numb leg and I couldn't move, so I think it would have been much more difficult for feeding and things through the night...so if every time I'd have wanted to feed her if I'd have had to ring for somebody, I think that would have made it much more difficult...I was really pleased I got the side-car bassinet and I think it was very beneficial in terms of encouraging breastfeeding and I think if I'd have felt less positive about it [breastfeeding] then I'd have been put off having to ask for help every time.*

The majority of women who used the side-car bassinets on the postnatal ward offered that side-car bassinets should be the standard provision for postnatal ward care. Both mothers who were assigned the side-car bassinet and those who allocated the stand-alone bassinet said that the side-car makes a considerable, positive difference to mothers' postnatal ward experiences. Maternal stress at the, sometimes overwhelming, tasks involved in infant and self care was also evident. Some mothers were observed crying in their beds while alone in the night. Women strongly emphasised the advantages of the close physical contact enabled by the side-car bassinets.

## **Theme 2 – Response to infant cues**

Postnatal ward rooming-infant arrangements impacted upon both mothers' responses to their infants' cues and the ability of the infants to bring their needs to their mothers' attention. As discussed above, many mothers with mobility issues after childbirth struggled with gaining access to their newborn. Time delays in responding to infants meant that the babies were often crying by the time their mothers had them in their arms. Mothers with the side-car bassinets (and in the first study those allocated to bedsharing) said that close physical contact with their infants enabled quick responses and frequent feedings. The visual and physical connection also served to reassure mothers that the baby was safe and well. During the daytime women who experienced rooming-in with stand-alone bassinets described keeping their babies in their arms, or a partner/family member holding the infant. These mothers would also have the baby in bed with them while they (women) were awake. However, through the night, when mothers using the stand-alone bassinets slept, this setup disrupted the dyads' connectedness.

From the infants' perspectives, the stand-alone bassinet created the need to expend more effort to attract their mothers' attention. This escalation of infant cues sometimes led to sustained crying, which in turn contributed to the level of noise on the ward that mothers complained about. Lack of maternal awareness of night-time infant cues is highlighted in the following sequence:

At 2:35am a mother is sleeping and her baby, located in a stand-alone bassinet beside the mother's bed, begins to stir. Over the course of the next 10 minutes, the

baby fully wakes and displays several rooting cues that signify he is ready to feed and searching for the mother's breast. Lying in a supine position, dressed in body-suit and socks with no blanket covering him, he spends several minutes squirming and rocking his head from side to side, kicking his feet, opening and closing his mouth, clicking his tongue, and mouthing his fists. He makes small snuffling and squeaking noises but does not cry. Meanwhile mother is asleep, in a supine position with a sheet pulled up to waist-height. Her face is turned away from her baby and her arm is above her head. Mother and baby are separated by a distance of no more than 30cm (1 foot), with the transparent plastic wall of the stand-alone bassinet between them – yet the mother is oblivious to her baby's waking, readiness to feed, and his attempts to locate her. As they are on separate surfaces, she cannot feel him move and the infant cannot reach her (see Figure 3).

In the above example, a feeding opportunity is missed when the baby gradually stops rooting and returns to sleep. The mother slept throughout this period without stirring.

[Figure 3 about here]

When mothers were aware of their infants' need to be removed from the stand-alone bassinet, some described frustration at not being able to respond effectively. Multiple mothers were observed lying on their sides in bed and reaching out to rock or jiggle the bassinet frame (see Figure 4). These attempts to soothe their newborns while waiting for midwifery assistance were usually ineffective, as one video description illustrated:

The baby is crying in the stand-alone bassinet. The mother has her hand over edge of the bassinet to reach her baby, but can only touch him with her fingertips. She presses the call-buzzer for the midwife, and shakes the frame of the bassinet in an attempt to comfort the baby while remaining lateral in her bed, waiting for a midwife to attend. Baby continues crying.

In contrast, mothers with the side-car bassinets responded to their babies quickly by patting and stroking them (see Figure 4). This possibility for side-car participants of having infants within reach was described as "just tremendous." In various videos with side-car bassinet participants, mothers placed, and often slept with, a hand on their newborns' chests. One such mother reported the ease of touching and reassuring her baby. Another mother compared her study experience with the side-car with her previous experience with a stand-alone bassinet:

*Actually the side-car is really good. I can be a lot more responsive quicker. I pick him up [out of the side-car] straight away whereas it takes me a good few minutes to get up out of bed. My little girl [previous baby] had been left crying [on the postnatal ward with the stand-alone bassinet]. I found this a lot easier. It was ideal when he was asleep. I could put my hand on him when he niggled.*

In summary, when women's movements were constrained after their deliveries, the stand-alone bassinet was viewed by the mothers as a direct impediment to their infant caretaking. The postnatal ward rooming-in arrangements provoked dramatically different types of interactions with their infants. These differences contributed to maternal concerns about infants suffering from impaired maternal access, breastfeeding difficulties, and worry whether infants could breathe when they coughed or displayed other concerning behaviour. Some mothers were also anxious that their babies would disturb other dyads on the ward if they cried, and so they were tasked not only with the responsibility of newborn care, but also about 'keeping the peace' during the night.

### **Theme 3 – Negative experiences**

A small proportion of women participating in the studies had infants taken out of their rooms for a period during the night. The explicit purpose of most of these separations was to enable the mother to get more sleep, without the 'burden' of breastfeeding what one midwife described for "greedy" infants, or the interruption of other caretaking behaviours. The idea of non-continuous rooming-in was introduced by staff on multiple occasions. Although some women described welcoming the opportunity for the time apart from their babies and one mother (allocated a stand-alone bassinet) said that she requested the midwives take her baby for part of the night, another mother attributed the actions by the midwifery staff as contributing to her early cessation of breastfeeding.

*I feel really quite cross now when I look back on it 'cos I was trying to breastfeed...they came in and said all the other babies are going to be taken away so that you and the other women on the ward can get some sleep and that made me feel sort of pressured...they took him away and I found out actually afterwards that they gave him a bottle [on two consecutive nights] and they didn't tell me about it. It sounds ridiculous 'cos I'm not a woman who cries but I just started to weep...that to me really undermined what I was trying to do.*

Another mother, whose baby would not settle in the stand-alone bassinet, had concerns that her baby's crying was going to disturb others on the ward but was also worried that she would roll on her infant if she fell asleep with him next to her in bed. She described asking a member of staff for formula milk at night-time as way of settling her infant in the stand-alone bassinet, something she said she might not have done if her infant was beside her in the side-car arrangement. This was a common theme in study 3 with the majority of 'top-up' formula feeds (used by a third of mothers on the postnatal ward) occurring at night-time; mothers described these 'top-ups' as attempts to stop their baby from crying and to induce infant sleep.

No participants or their infants were observed, or otherwise documented, as having experienced harm. However, situations that put babies at risk arose in relation to the interaction of the standalone cot structure with limited maternal mobility. Those mothers who were mobile often stood on their knees to reach their infant (see Figure 5). The distance and height of the stand-alone bassinet led to some mothers to provide poor support to their infants when moving them compared to the access enabled by the side-car. Infants were viewed with suboptimal neck support, being shuffled in a stand-alone that tipped sideways under the weight of a mother's arms as she was leaning on it to retrieve him from her position in bed, and an infant being dropped several inches into a stand-alone bassinet adjacent to her bed (see Figure 6). The participant who accidentally dropped her baby into the stand-alone bassinet could not maintain contact with her infant from her position sitting on the bed. After the baby was in the bassinet, she got up onto her knee, scooted over to him, and verbally apologised.

[Figure 6 about here]

#### **Theme 4 – Bedsharing as a way of coping**

The isolation felt by mothers on the night-time postnatal ward, and the inconvenience of the stand-alone bassinets led to many women bedsharing with their babies for sleep. The main reasons given for this arrangement were for feeding or to settle a fractious infant and some of these mothers reported falling asleep; one commented she found it was getting "a bit silly" frequently getting in and out of bed:

*It [side-car bassinet] certainly would have made being able to hold Adam easier and even helped me to get a little bit of rest. To have him so close to me, 'cos sometimes when a baby cries they just want a bit of contact, to know that you're there, so just being able to put your hand in and touch him, that's all they want. Whereas with the other ones [stand-alone bassinet] even having them up next to the bed, 'cos of the*



*cupboard thing that they are on...there's still a good half foot between you...and they're quite high up as well, they're not the most practical of things.*

Women stated that when they removed their infant from the bassinet to join them in the bed their intention was to stay awake. However, we observed several mothers who fell asleep with their babies in their arms instead of returning them to the bassinet. Unintended bedsharing introduced potential risks to the infants. A problem with this scenario, especially when the mother was in a reclining position, was the risk of the baby sliding off her chest to the floor when the mothers' arms relaxed (see Figure 7). In study 1 when mothers were randomised to bedshare with a bedrail they slept alongside their babies, often feeding in a side-lying position and the bedrail prevented the possibility of falls.

[Figure 7 here]

In another video, a post-caesarean section mother can be seen breastfeeding her infant in bed, and then watching the infant sleep on a pillow on her lap for a few minutes. The woman then looks at the stand-alone bassinet adjacent to her bed, and then back at her infant multiple times. She seemed to be debating about whether it was 'worth' the effort to move her infant. In the end participant fell asleep with the infant still on the pillow on her lap.

### **Theme 5 – Insufficient staffing**

Many women commented that care on the postnatal ward was compromised by staff being too busy to offer sufficient support, particularly with breastfeeding. Furthermore, accounts provided by multiparous mothers indicated staff often assumed such women did not require support leaving them feeling "forgotten about":

*I couldn't get her to feed at all in the hospital...I didn't actually feed her until I got home...she [midwife] came and more or less just said 'here's these nipple shields they might help' and they didn't...I felt really stressed by the fact that I hadn't fed her...I felt really pressured to breastfeed on the ward but not given any help to do it... they were just really, really busy.*

*I had to wait a while for someone to come 'cos they were always really busy you know, so I'm that kind of person who doesn't like to bother people you know so I just waited to catch somebody and it was sorta later on in the day and someone came, and I'd been trying myself before then, and I said I just can't get him to latch on...and she did help me to get it started and I did manage to feed him but then after that I couldn't get him to do it again.*

In a hectic environment, some women felt that their needs were not significant in relation to the staff's overall work. Furthermore, assistance that was delivered in a rushed manner was described as little benefit to helping women gain knowledge and confidence in infant care. Consequently, in the absence of sufficient support during the daytime, the women were even less able to cope with issues that arise during the night-time period--when staffing levels and presence on the postnatal ward was further reduced.

Delay in postnatal ward staff support of mothers at nighttime can undermine breastfeeding. In one night-time filming session, a health assistant (technician) asked how the mother was doing as she took her blood pressure. After the mother mentioned breastfeeding difficulty, the technician did not respond or seek midwifery assistance. The upset woman was left on her own. The participant later buzzed for a midwife and asked to be brought a bottle of formula, to which the midwife offered breastfeeding support. However, the woman gave her infant the formula. In another example, maternal discomfort and tiredness after cesarean section childbirth was exacerbated by a delay in painkiller provision by the midwives. During the observation period, a participant asked a midwife for the pharmaceuticals and although the midwife said she would oblige, she did not return for fifty minutes. By then, the woman was sleeping and was woken by the midwife's return.

Insufficient staffing levels was not only a problem discussed by the mothers; all of the staff interviewed identified this to be the main constraint of care they delivered. Several staff mentioned that the side-car bassinet alleviated some of the demands on their time in addition to providing mothers with greater satisfaction of being able to independently meet their infants' needs.

*I think a lot of mams kind of give up on breastfeeding if they have to keep buzzing us, especially as they can see it's busy on here [the ward] and they don't have somebody, a port of call for help, especially when it's busy and we're short staffed.*

When discussing postnatal breastfeeding support, the overwhelming consensus amongst the staff was that although breastfeeding was high on the agenda for importance, the reality of what the staff were able to deliver was frustratingly inadequate both in quality and quantity. This was attributed to low staffing levels, high workload expectations and rapid patient turnover. Overall, the staff felt this problem was beyond their control. Lack of comprehensive breastfeeding support created feelings of anxiety and guilt amongst some members of staff when their attention was needed elsewhere: *It's whoever's needs are most, you just have to decide 'cos you can't tear yourself in half.*

The following account offers a valuable insight into the high-pressured environment in which staff are typically working. It is notable that the description of the workload appears to be dominated by medical procedures and checks without mention of time being allocated to practical and emotional support for mothers who require help when providing care for their infant:

*For next door's 24 bedded ward [surgical ward] there's three midwives on and we're full today, so that's eight to nine women each and they're all newly sectioned so they've all had major surgery, they need all the medical, you know, drips, catheters, wound dressing, observations, blood pressures done, so you have all that and we have all the transitional care babies, so all tube feeding and that sort of thing so if you have eight of those or nine of those then you're pretty full on, I mean you have 18 people really for one midwife really 'cos it's mums and babies, this is a 24 bedded ward here [non-surgical ward] and there are two midwives on this morning.*

## **Discussion**

By identifying five themes regarding night-time interactions the postnatal ward, we have sought to draw attention to the experiences of mothers-infant dyads as well as the perspectives of the staff involved in their care. Emerging from all three of our studies was evidence that 'traditional' rooming-in, with infants in stand-alone bassinets adjacent to maternal hospital beds, was unsatisfactory. Alternate models for rooming-in using either bedsharing or side-car bassinet arrangements were both reported by mothers, and observed, to improve the postnatal ward experiences of women, their infants, and hospital staff.

A key concern of mothers in our studies was their ability to respond to their infant's needs. Mothers who bedshared or had the side-car bassinets were less reliant on hospital staff and reported that their overall postnatal ward experiences were greatly enhanced by unhindered access to their newborns. The stand-alone bassinet was found to be both a physical and emotional barrier between mother and baby. This arrangement contributed to infant crying (which has also been referred to as the 'separation distress call' (Christensson et al., 1995)), delays in breastfeeding and, in many instances, maternal distress and pain when attempting to access the baby.

In situations where mothers struggled to independently care for their newborns, or infants were distressed, staff sometimes offered formula and/or removal of infants from the mothers' rooms in attempts to facilitate maternal sleep. Similarly, Heinig (2010) showed that staff attitudes regarding formula supplementation to combat 'problem' infant crying and

maternal fatigue were difficult to change. Further, Furber and Thomson's (2006) study revealed that midwives reported to have knowingly engaged in "breaking the rules" regarding their hospital's breastfeeding policy by giving formula milk to infants at night on a regular basis. This was a practice that the midwives involved regarded as responsible care rather than deviant behaviour, yet they chose to hide their actions from both the mothers and their peers due to concerns over how their intervention would be received. As with Heinig's (2010) research, staff explained their behaviour as benefitting mothers who were experiencing fatigue or difficulties following childbirth. In some instances, the midwives justified their actions by suggesting that it was essential to maintain breastfeeding motivation in some mothers. This claim is in direct contrast to the findings by McAndrew et al. (2012) that receipt of additional feeds (formula, water or glucose) on the postnatal ward was associated with an increased likelihood of stopping breastfeeding in the early weeks after delivery. Furthermore, Declercq et al.'s (2009) research revealed that hospital practices conflicting with BFI guidelines (notably formula/water supplementation) were more likely to result in unfulfilled intentions to exclusively breastfeed at one week, particularly in first-time mothers.

Various studies have also documented that separation of newborns from their mothers not only undermines breastfeeding but impacts also upon on the physical and emotional well-being of both mother and baby (Bergman et al., 2004; Morgan et al., 2011; Winberg, 2005). Night-time separation and/or formula being given to infants without the mother's permission or maternal report of pressure to consent to otherwise not medically 'necessary' formula feeds have been documented in multiple other studies (such as Beeken and Waterston, 1992; Raisler, 2000; Whelan and Lupton, 1998). Such 'culture-lag' in the biomedical system is defined as the persistence of patterns of behaviour long after the clinical rationale for the practices has been dismissed (Kroeger, 2004). As Dykes (2006) points out, these interventions serve to restore culturally embedded, shared notions of 'order' to the postnatal ward which is likely to underpin why such practices perpetuate or are not strongly challenged by mothers.

The video observations uncovered a number of previously unknown, or at least unacknowledged, safety issues with rooming-in on the postnatal ward, such as when mothers encountered difficulty manoeuvring infants in and out of the stand-alone bassinet or when infants were brought into bed as a means of coping with night-time infant care. In-hospital infant drops and falls to the floor are dramatic yet under researched events; one study that examined data from 18 hospitals in the U.S. over a three-year period reported 14 infant falls (Monson et al., 2008). The circumstances surrounding the falls were documented as follows; four falls occurred in the delivery room, two in the hallway when a nurse was wheeling a bassinet, one when an infant was placed in an infant swing, and seven when a parent fell asleep whilst holding the infant in a hospital bed (or in one instance a reclining chair). Notably, six of the seven falls from a parent's arms occurred between 1:30am and 9:00am. In another study, Helsley et al. (2010) gathered data from seven U.S. hospitals over a two year period and reported 9 cases of newborn falls. The incidents were reported as follows; one fall occurred in the context of a father falling asleep holding an infant in a chair, one when the mother tripped on her intravenous line when getting out of bed holding the infant, two when the mother was repositioning or transferring the infant to a stand-alone bassinet whilst in remaining the bed, one when the mother fell asleep when breastfeeding (not specified if this was in the bed or in a chair), and four occurred when the mother fell asleep holding the infant in bed. In all but two cases the event occurred during the night or in the early hours of the morning and the parent and not a member of staff initially discovered all fallen infants. Helsley et al. conclude that greater attention to newborn safety is required in the engineering of hospital equipment. They argue that the distance between the bed and the stand-alone bassinet discourages the mother from using it and suggest that a side-car bassinet arrangement could reduce the number of in-hospital infant falls. Observational methods, therefore, are a useful tool to divulge contextualised accounts of the physically or emotionally harmful situations that mothers and infants may encounter on the postnatal ward at night-time. These interactions are otherwise invisible to both staff and researchers employing traditional ethnographic methods.

The emic descriptions we amassed of the postnatal ward from both mothers and staff reinforces Dykes' (2006) analysis of an occasionally rushed, chaotic, and fragmented approach to medical care. Dykes (2006) reports that mothers complained that staff rarely 'touched base' with them except to carry out routine checks. This left some women feeling that summoning a member of staff for breastfeeding or infant care support was an unwarranted diversion from more important or urgent tasks. Dykes discusses how the unpredictability of events on the postnatal ward means that staff may be moved at anytime to treat another patient, leading to a working philosophy to 'get the job done' in case the situation suddenly changed. Consequently, relationships between mothers and midwives are suboptimal and staff often feel stressed. Overall, the postnatal ward faces considerable obstacles to the implementation of change (Bilson and Dykes, 2009; Cox, 2009; Dykes, 2006; Dykes and Flacking, 2010; Edwards et al., 2011; Hughes et al., 2002; Kirkham, 1999; Schmied et al., 2011). The damaging effect of this environment on mothers is reflected in studies linking a negative postnatal ward experience with unfulfilled breastfeeding intentions (Burns et al., 2010; Nelson, 2006; Renfrew et al., 2012; Tarkka et al., 1998; Thomson and Dykes, 2011) and postnatal depressive symptoms (Astbury et al., 2010; Huang and Mathers, 2008; Kitzinger, 2012). In contrast, individualised, sensitive lactation support increases maternal confidence and satisfaction of postnatal care in hospital (Bäckström et al., 2010). Further, a systematic review by Renfrew et al. (2012) recommended a proactive approach to breastfeeding support. The report concluded that support within community and hospital settings, that is only offered reactively to women who seek out help, is likely to be ineffective at increasing any or exclusive breastfeeding duration.

A novel issue to emerge from our analyses involves the cultural expectations and environmental ecology of UK hospitals at night and their impact on postnatal care. Night-time staffing levels and service provision (such as absence of management staff, visitors, catering etc.) strongly signal that night-time is considered 'down-time' in these settings. Implicit here is the assumption that fewer midwives are needed on the ward overnight compared to daytime because mothers and newborns are expected to be primarily sleeping at night, with mothers in their beds and infants in their stand-alone bassinets. Assumptions are of a quiet environment, lack of disturbance, few demands, and no problems that require urgent or specialist attention. Well-meaning staff understandings are that mothers need to sleep. In this mindset, if infants need attention, then an appropriate role of the staff is to give the mothers 'a break.' This care may include feeding the baby formula without maternal consent or knowledge and/or removing the newborn from the mothers' rooms. The cascade of maternal-infant separation events unwittingly harms at least lactation physiology, if not other aspects of bidirectional maternal-infant processes such as attachment.

Such institutional expectations and staff assumptions as discussed above fail to incorporate either local hospital ecology or maternal-newborn biology. Multiple studies have reported that UK hospitals are poorly designed to promote 'down-time', rest, or sleep among patients. Sleeping with strangers in communal wards, unfamiliar and uncomfortable beds, lack of light screening between areas, the noises of patients and staff, constant bright lighting of hallways and corridors, all serve to impede sleep (Armstrong et al., 2004; Meltzer et al., 2012; Southwell and Wistow, 1995; Topf and Davies, 1993). Expectation of prolonged bouts of both maternal and newborn sleep are also inconsistent with the short sleep and feeding cycles of infants, and the need for mothers to nurse frequently in the early post-partum period in order to increase prolactin production and facilitate lactogenesis II, the production of mature breast milk.

Our research suggests a more appropriate conceptualisation of postnatal ward dynamics that involves 1) extensive and dynamic night-time activity, 2) many new mothers being at least sore and at worst immobile and therefore requiring physical assistance and emotional support, 3) newborn 'expectation' to maintain physical contact with their mothers after childbirth and infant protest when they feel separated from their caregivers, 4) infants and mothers, unless under the influence of labour analgesia or experiencing medical complications, feeding frequently throughout the night and often benefiting from assistance or support, and 5) hospital furniture and ward arrangements either constraining or promoting

particular ward interactions. Overall, the combination of descriptive and ethnographic approaches allowed us to gain emic insight into the mother-baby experience of night-time on the postnatal ward. The findings can be translated into clinical changes to facilitate responsiveness to infant cues and maternal self-care.

### **Strengths and limitations of approach**

The extended, naturalistic recordings of mother-infant and maternal-staff interactions obtained through overnight filming captured contextualized data that were otherwise inaccessible. Combining objective coding of behavioural recordings with qualitative data analyses offers a holistic understanding of the processes that contribute to health outcomes. An additional strength of our research approach is that including images and video clips (with explicit consent from participants) alongside summary statistics and participant quotes in scientific and policy presentations can be an effective way convey the study findings.

Drawbacks to observational research include the extensive time and financial investment required for continuous coding of such extended observations. Our studies were limited by the use of single, standard-definition cameras set that recorded at fixed angle and zoom. Some behaviours could have been missed due to lack of recording clarity or when participants moved out of range. Ongoing parent-infant sleep studies use multiple, high-definition infrared cameras that permit wide-angle recording and zooming-in on particular areas of interest during the coding process. A further constraint of observational research is that some people are averse to being videoed. The self-selective nature of volunteering for research means that the behaviours of participants may systematically vary from those who do not take part. Also, some clinical staff expressed concern to our research team that information from the study observations might be used to 'reprimand' them. Therefore, the interactions recorded for the research projects may have differed from standard care.

### **Conclusions**

The research approach introduced in this chapter enables us to have unique insight into ways to make postnatal wards more family friendly. The use of side-car bassinets, having lactation support available and expected through the night, and facilitating partners to stay overnight are a few of the many protocol changes that are consistent with the 10 Steps to Successful Breastfeeding (WHO, 1989) and can be further tested to extend this standard level of evidence-based care. Future research may benefit from featuring parental (maternal and paternal) satisfaction, depressive symptoms, and anxiety as outcome measures alongside infant feeding outcomes. In our studies reported here, although most women were unhappy with their postnatal ward care none, of them formally complained or reported serious errors. This suggests that without research that utilizes the combination of extended filming and participant questioning to understand the observed behaviours, experiences such as the difficulties that many new mothers experience with the stand-alone bassinets while rooming-in on the postnatal ward, may never be brought to light officially. The stand-alone bassinet may not just be inconvenient for mothers, it may be an unnecessary breastfeeding obstacle and institutionalised risk for infants.

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Table 1

<b>Experiences described and observed</b>
Maternal need for support
Response to infant cues
Negative experiences
Bedsharing as a way of coping
Insufficient staffing

Figure 1: Bassinet types



Side-car bassinet



Stand-alone bassinet

Figure 2: Mothers using standalone bassinets had difficulty reaching their infants



Side-car bassinet



Stand-alone bassinet

Figure 3: Mother sleeps through infant feeding cues



Figure 4: Mothers with stand-alone bassinets had difficulty soothing infants



Side-car bassinet



Stand-alone bassinet

Figure 5: Mother has to stand on her knees to retrieve infant



Figure 6: Mothers with limited mobility had difficulty moving babies



Dropping infant into bassinet



Tipping bassinet while picking infant up

Figure 7: mothers fell asleep with babies in more or less safe ways

