

September 23rd, 2023 08:00 - 09:00

## POSTER WALK – NURSING 3

### ID 1033. Unplanned extubation: An audit and QI project

**Doctor Rebecca Kettle**<sup>1</sup>, Mrs Elizabeth Hanlon<sup>1</sup>, Mrs Danielle LLabres<sup>1</sup>, Miss Deb Edwards<sup>1</sup>, Dr Natalie Gallagher<sup>1</sup>

<sup>1</sup>Liverpool Women's Hospital, Liverpool , United Kingdom

#### Background

Unplanned extubations were identified as a theme from local neonatal mortality reviews in 2021. UEs have the potential to cause cardiorespiratory deterioration, airway trauma and subglottic stenosis from repeated intubations and ventilator induced pneumonia. An audit and quality improvement project was planned to address UE.

#### Method

The project started with recording contemporaneous data collection of all UE for 6 months. The audit results were used to inform the design of a quality improvement project. A multi-disciplinary team of nurses, advanced neonatal nurse practitioner's (ANNPs) and doctors created a QI package consisting of an airway risk assessment, airway awareness cot card, a new endotracheal tube fixation device and safe handling education sessions.

The package was introduced through a combination of F2F education sessions, safe handling simulations, educational QI materials accessible through the departmental app and small group training sessions on the new ETT fixation device.



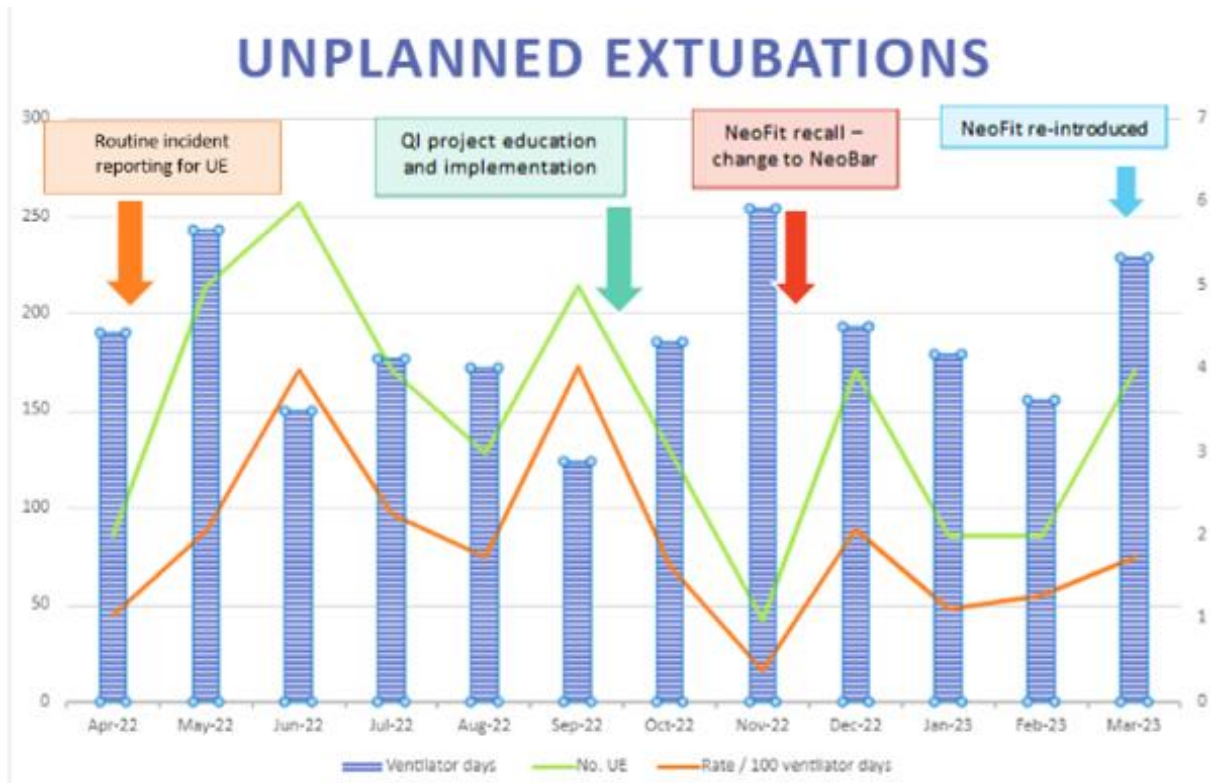
## Results

Prior to the audit and QI project, UE was not routinely reported the initial rise in UE rate, we believe is due to increased reporting not increased occurrence. During the 6 month prospective audit the average rate of UE was 2.5/100 ventilator days. The audit found 75% of UE occurred during episodes of handling, there was no correlation to weight, gestation or time of day however, more than half of the babies did not require re-intubation.

In the first month following the QI implementation the UE rate dropped to 0.4/100 ventilator days.....unfortunately, progress was interrupted by a product safety recall, overnight the ETT fixation had to be changed! This unexpected challenge and the effects on the UE rate can be seen in the graph below. Challenges aside, the UE rate has nearly halved from 2.5/100 ventilator days prior to the QI project to 1.3/100 ventilator days post-QI implementation.

## Conclusion

Whilst the UE rate has been halved, an UE rate consistently <1/100 ventilator days has not been achieved. The next phase includes refresher educational sessions with an increased focus on safe handling, positioning of ventilated babies and timely proactive extubation. Routine incident reporting will continue to be monitored by the UE QI team.



UE occurrence and ventilator day activity over 12 months

UE occurrence and ventilator day activity over 12 months

None declared



## ID 1027. NURSES' AND PARENTS PERCEPTIONS ABOUT FAMILY-CENTERED CARE AND LIGHT AND SOUND ENVIRONMENTAL CONTROL IN THE NICU

**Professor Marilyn Aita**<sup>1,2,3</sup>, Professor Sonia Semenic<sup>3,4</sup>, Miss Gwenaelle De Clifford-Faugère<sup>5</sup>, Miss Geneviève Laporte<sup>1,2</sup>, Miss Audrey Larone Juneau<sup>6</sup>, Professor Sébastien Colson<sup>7</sup>, Professor Nancy Feeley<sup>4,8</sup>

<sup>1</sup>Université de Montréal, Montréal, Canada, <sup>2</sup>Research Centre CHU Sainte-Justine, Montréal, Canada, <sup>3</sup>Quebec Network on Nursing Intervention Research (RRISIQ), Montréal, Canada, <sup>4</sup>McGill University, Montréal, Montréal, <sup>5</sup>Université du Québec en Abitibi-Témiscamingue (UQAT), Abitibi-Témiscamingue, Canada, <sup>6</sup>CHU Sainte-Justine, Montréal, Canada, <sup>7</sup>Aix-Marseille Universités, Marseille, France, <sup>8</sup>Center for Nursing Research, Jewish General Hospital, Montréal, Canada

**Background.** Both parents and nurses play an essential role in promoting preterm infants' growth and development in the Neonatal Intensive Care Unit (NICU). As nurses should encourage Family-Centered Care (FCC) in addition to a calm, quiet and welcoming environment for parents, it was pertinent to evaluate the nurses' and parents' perceptions of the FCC in the NICU as well as the physical environment to guide neonatal care. The objective of this study was to compare the nurses' and parents' perceptions of the NICU ability to provide FCC along with the environmental control of light and sound.

**Methods.** Secondary analysis of two studies conducted in the same universities affiliated NICUs in Montreal, Canada. Overall, 109 nurses with more than 6 months of neonatal experience and 45 parents whose preterm infant was hospitalized for at least seven days composed the sample. The FCC-Questionnaire for nurses and parents (Shields & Tanner, 2004) assessed their perceptions of the NICU's ability to

provide FCC, scores could range from 20 to 80 and a higher score indicated more favorable perceptions. Two questionnaires assessed nurses' and parents' perceptions about NICU environmental control (Walsh–Sukys et al., 2001) where a higher score indicated higher level of agreement about the appropriateness of the light and sound environment.

Results. No significant difference was found between the mean scores of nurses' and parents' perceptions about the NICU ability of providing FCC (respectively  $x=64.1 \pm 5.37$  vs.  $64.3 \pm 8.44$ ,  $p=.888$ ). Total mean scores of the appropriateness of the light environment did not indicate a significant difference between nurses ( $x=15.4 \pm 2.5$ ) and parents ( $x=16.1 \pm 2.6$ ) ( $p=.128$ ). Also, mean scores for the appropriateness of the sound environment did not differ significantly between nurses ( $x=10.1 \pm 2.9$ ) and parents ( $x=10.8 \pm 2.4$ ) ( $p=0.115$ ).

Conclusion. Perceptions of nurses and parents were similar for FCC as well as NICU light and sound environmental control. Nurses' and parents' perceptions about these practices were comparable even if parents spend less time in the NICU compared to nurses who are continuously working in the neonatal unit, suggesting that care seem to be systematically and consistently offered by nurses.

None declared

## ID 1053. Happiness for Improvement of Premature and Parental Outcome (HIPPO): determining parental stress during and directly after NICU admission

Dr. Hedy van Oers<sup>1</sup>, **Mrs Naomi Meesters**<sup>2</sup>, Dr. Gerbrich van den Bosch<sup>2</sup>, Dr. Maria Luisa Tataranno<sup>3</sup>, Dr. Willem de Boode<sup>4</sup>, Dr. Peter Dijk<sup>5</sup>, Dr. Frank Schuerman<sup>6</sup>, Dr. Marlou Kouwenberg–Raets<sup>7</sup>, Dr. Christ–jan van Ganzewinkel<sup>8</sup>, Prof. dr. Enrico Lopriore<sup>9</sup>, Prof. Dr. Irwin Reiss<sup>2</sup>, Prof. Dr. Anton van Kaam<sup>10</sup>, Prof. Dr. Manon Benders<sup>3</sup>, Prof. Dr. Monique van Dijk<sup>2,11</sup>, Dr. Cornelieke Aarnoudse–Moens<sup>1</sup>, Dr. Sylvia Obermann–Borst<sup>12</sup>, Dr. Sinno Simons<sup>2</sup>, Dr. Lotte Haverman<sup>1</sup>, HIPPO study group

<sup>1</sup>Emma Children’s Hospital, Amsterdam UMC, University of Amsterdam, Child and Adolescent Psychiatry & Psychosocial Care, Amsterdam Reproduction and Development, Amsterdam Public Health, Amsterdam, the Netherlands, <sup>2</sup>Department of Neonatal and Pediatric Intensive Care, Division of Neonatology, Erasmus MC – Sophia Children's Hospital, Rotterdam, the Netherlands, <sup>3</sup>Department of Neonatology, Wilhelmina Children's Hospital, University Medical Center, Utrecht University, Utrecht, the Netherlands, <sup>4</sup>Department of Paediatrics, division of Neonatology, Radboud University Medical Center, Radboud Institute for Health Sciences, Amalia Children's Hospital, Nijmegen, the Netherlands, <sup>5</sup>Department of Neonatology, Beatrix Children's Hospital, University Medical Center Groningen, Groningen, the Netherlands, <sup>6</sup>Department of Neonatology, Isala Women and Children's Hospital, Zwolle, the Netherlands, <sup>7</sup>Department of Pediatrics, Division of Neonatology, Maastricht University Medical Center, Maastricht, the Netherlands, <sup>8</sup>Department of Neonatology, Máxima Medical Center, Veldhoven, the Netherlands, <sup>9</sup>Department of Pediatrics, Division of Neonatology, Leiden University Medical Center, Leiden, the Netherlands, <sup>10</sup>Department of Neonatology, Emma Children’s Hospital, Amsterdam UMC, University of Amsterdam, Amsterdam, the Netherlands, <sup>11</sup>Intensive Care and Department of



Pediatric Surgery, Erasmus MC – Sophia Children’s Hospital, Rotterdam, the Netherlands, <sup>12</sup>Care4Neo, Neonatal Patient and Parent Organisation, , the Netherlands

## Background

Premature infants admitted to a Neonatal Intensive Care Unit (NICU) are exposed to painful and stressful events with long-lasting effects. Former studies mainly focused on their effects on the neonate, however more extensive research into the effect on parents is necessary as NICU admission also greatly impacts parents’ wellbeing. Therefore, in the national multicenter observational cohort ‘HIPPO study’, levels of parental stress during NICU admission and around expected due date were studied.

## Methods

Parents of preterm infants (N=447) born at a gestational age of <29 weeks and admitted to a Dutch NICU were invited. From July 2020 to April 2022, parent couples completed Parent Reported Outcome Measures (ParROMs) using the KLIK PROM portal ([www.hetklikt.nu](http://www.hetklikt.nu)) at three time points during and after NICU admission: 8–14 days after birth (T0), 28–34 days after birth (T1) and around expected due date (T2). Parents’ answers at T0 were being discussed with them by a NICU psychosocial staff member. Constructs measured are: Post Traumatic Stress Disorder (PCL–5), depression (PROMIS CAT), parental distress (Distress Thermometer for Parents) and NICU environmental stressors (PSS:NICU). Medical outcomes of the child and sociodemographic data were collected.

## Results

Preliminary results show that 15% of fathers report a clinical level of PTSD, which remains stable over time (T0–T2). Clinical PTSD levels in mothers range from 17% at T0 and increase to 33% at T2. A majority of mothers (52%) and 26% of fathers



experience the NICU admission of their child as (very) stressful at T0, where seeing their child in pain is the most stressful factor.

### Conclusion

This study provides insight into short-term psychological consequences for parents after preterm birth and NICU admission and sheds light on which parents should receive additional support during admission.

None declared





## ID 993. Development of a digital, high-quality and user-friendly platform for families with (ex-) premature infants

Mrs Inge Tency<sup>1</sup>, Mr Davy De Winne<sup>1</sup>, **Mrs Anaïs Lippens**<sup>1</sup>

<sup>1</sup>Odisee University Of Applied Sciences, Sint-Niklaas, Belgium

### Background

An emotional, difficult, stressful period starts for parents when their baby is admitted to the neonatology. Those parents are looking for online information regarding prematurity. However, professionals are concerned about its quality and accuracy. Additionally, support and care for families with a premature infant is fragmented, often unknown by parents and caregivers, partly due to regional differences. Therefore, a digital platform is currently developed to bundle relevant, qualitative, reliable and evidence-based information around prematurity.

### Methods

A user-centered design (UCD) model is used to develop the platform. This iterative design process, based on AGILE principles, consists of four stages: (1) understand the context of use, (2) specify user requirements, (3) design solutions and (4) evaluate. Key elements in the UCD model is active involvement of end-users, focusing on the needs of parents as well as a multidisciplinary approach.

### Results

A users' group of parents and advisory board with different experts and stakeholders have been set up. We explored needs of parents with a preemie, based on our previous research and a literature review and mapped existing resources for parents. In a design sprint with parents, we determined the content of the platform and defined its priorities and functionalities. This results in a first version of the platform

with the following pages, validated by the advisory board: (1) a homepage with general information about prematurity, (2) a page ‘on neonatology’, (3) a page ‘discharge’, (4) a page ‘peer support’ with testimonials, (5) a dictionary explaining medical and other terms and (6) a contact page. Currently, we are elaborating pages on selfcare, follow-up of the preemie, feeding and financial/administrative issues. An evaluation of the platform among parents is planned between June and August 2023.

### Conclusion

This digital platform, developed through an innovative, user-centered approach with active involvement of parents, is a unique tool to help families with a preemie and guide them to the appropriate care and support, thereby bundling relevant information and resources about prematurity. The co-creation approach optimize the conditions for a successful and sustainable implementation, leading to the reference platform for prematurity in Belgium.

None declared



## ID 121. Livestreaming webcam technology use in the neonatal unit: parental perspectives

**Doctor Kathy Chant**<sup>1</sup>, Professor Neil Marlow<sup>1</sup>, Dr Judith Meek<sup>1</sup>, Doctor Katie Gallagher<sup>1</sup>

<sup>1</sup>UCL, London, United Kingdom

### Introduction

During the COVID–19 pandemic many neonatal units had restricted parental access policies. To reduce the separation between parents and their infants, livestream webcams enabled parents to view their baby in ‘real time’ when they were unable to be physically present. Previous studies have highlighted positive effects for parents including improved bonding, however adverse effects have also been noted such as being unable to soothe their baby when they are in distress. Despite growing interest in livestream technology there are still few studies investigating parent experience, particularly in the UK. The aim of this study was to explore parent perspectives of using webcam technology on the neonatal unit.

### Method

This was a prospective questionnaire–based study. The questionnaire was developed to explore frequency of webcam use, shared access to webcams with extended family, parent preferences toward webcam use, including benefits and drawbacks. Parents were invited to take part in the study if they had opted to use livestream webcams, or if they had declined. Webcams were available in every cot space with livestreams made twice a day for 2 hours. Parents consenting to participate in the study completed one survey during their infant’s neonatal admission. Data were collected for a 6–month period between February and August 2021.



## Results

A total of 102 parents completed the questionnaire. Findings revealed nearly all parents offered the use of a webcam had accepted (97%). Two thirds of parents reported sharing online access with extended family (77%), and over half of parents with other children used the webcam to introduce siblings to their new baby (66%). The use of continuous livestreaming would have been preferred by 47% of parents. Almost all participants felt the webcams to be beneficial (99%), however 40% also reported negative aspects to livestream technology.

## Conclusion

The introduction of livestream webcam technology was perceived as valuable for parents in the neonatal environment. Webcams were used by parents to facilitate the integration of their baby into the wider family whilst visiting restrictions were in place. Education for parents prior to using webcams would help to reduce distress, manage expectations, and improve parent experience.

There are no conflicts of interest.

## ID 10. Perinatal palliative care: current care provided at the end-of-life and possible shortcomings as experienced by bereaved parents and involved healthcare providers

**Doctor Laure Dombrecht**<sup>1</sup>, Dr. Linde Goossens<sup>2</sup>, Prof. Kenneth Chambaere<sup>1</sup>, Prof.

Kim Beernaert<sup>1</sup>, Dr. Ellen Roets<sup>3</sup>, Prof. Filip Cools<sup>4</sup>, Prof. Kristien Roelens<sup>3</sup>

<sup>1</sup>End-of-Life Care Research Group, Vrije Universiteit Brussel (VUB) & Ghent

University, Brussels, Belgium, <sup>2</sup>Department of Neonatology, Ghent University Hospital,

Ghent, Belgium, <sup>3</sup>Department of Obstetrics, Women's Clinic, University Hospital

Ghent, Ghent, Belgium, <sup>4</sup>Department of Neonatology, Universitair Ziekenhuis Brussel,

Vrije Universiteit Brussel, Brussels, Belgium

### Background:

Despite incidence of perinatal death in Western countries being among the lowest, its impact is tremendous. In case of a life-limiting diagnosis before or after birth, perinatal palliative care can be provided as a multidisciplinary care approach for an infant who will probably not survive. Perinatal palliative care is a relatively new field and no formal teams exist in Belgium. Therefore, the care that is currently being provided is unclear.

### Methods:

We conducted semi-structured face-to-face interviews with 22 healthcare providers (physicians and paramedical personnel) and 18 bereaved parents, recruited through four neonatal intensive care units and social media calls in Flanders, Belgium.

Participants were asked which care is being provided in case of severe prenatal or neonatal diagnosis. Two researchers independently analysed the data, using content analysis to extract and summarize current care being provided, and hiatuses in current perinatal palliative care.



### Results:

Themes emerged according to the set distribution of tasks for each healthcare provider: physicians were mainly tasked with diagnosis, prognosis, and bad news conversations; while psychosocial support was more often expected from nurses, midwives, psychologists and social workers. Social workers were additionally tasked with practical support. Nurses and midwives more often provided support after the death of the infant, including bathing and dressing the child together with parents and memory making. Care offered was variable depending on the department, the hospital and the care staff present. Improvements in communication between and among hospital wards, and care for healthcare providers can be improved.

### Conclusions:

As no formal perinatal palliative care teams exist in Belgium, all obstetrics and neonatal intensive care wards provide care at the end of an infant's life independently, to the best of their abilities. Therefore, the care being provided is sometimes fragmented, and can be extremely different depending on the hospital, care ward or available personnel. The main focus of perinatal palliative care is towards the wellbeing of the foetus or infant, their parents and immediate family members, tailoring care towards their specific wishes and needs. Care for healthcare providers is often overlooked.

None declared



## ID 976. CREATING A NEONATAL UNIT IN A CHILDREN'S HOSPITAL SETTING: MULTIDISCIPLINARY CONSULTATION ESSENTIAL IN INTRODUCING CHANGE IN A TIME- AND BUDGET-LIMITED ENVIRONMENT

**Doctor Ann Hickey**<sup>1</sup>, Ms Jenny Dunne<sup>1</sup>, Ms Caroline Kelly<sup>1</sup>, Ms Elizabeth Sweeney<sup>1</sup>,  
Ms Mairead Thompason<sup>1</sup>, Ms Claire Shea<sup>1</sup>

<sup>1</sup>Children's Health Ireland, Dublin, Ireland

### Background:

Children's Health Ireland (CHI) Neonatology is a quaternary referral service for all infants born in Ireland requiring surgical or subspecialist care. Newborns with complex needs and congenital abnormalities are currently managed across two sites, Crumlin and Temple Street.

In 2025, CHI will transition to a state of the art new children's hospital which will have Ireland's first surgical NICU.

Two thirds of current neonatal referrals require intensive or high dependency care(HDU) but to date, a dedicated area for neonatal care had not been in place in CHI Crumlin. The aim of this project was therefore to introduce a neonatal unit with high-dependency beds in a tertiary paediatric hospital, with specialist staffing, governance and facilities.

### Methods:

A core project team comprising lead physician, nurse and project manager was established under CHI's strategic priority structure. A comprehensive risk assessment identified staffing, infrastructure and governance as key work streams. A phased business case was developed based on national and international service specifications for neonatology.

A project group was established for implementation planning with representation from Patient Flow, Nursing, Medics, Therapists, Technical Services, Facilities, Operations and Parents. Funding for equipment was secured through a charitable foundation and for staffing through national pathways.

Information and plans were shared locally and nationally using social media, townhall and small group presentations.

#### Results:

The core team commenced work in August 2021 and the HDU opened in October 2022, with infrastructural works continuing into 2023.

Admission and operational criteria were agreed after extensive consultation involving multiple stakeholder groups. This ensured that design and implementation surprises were minimised.

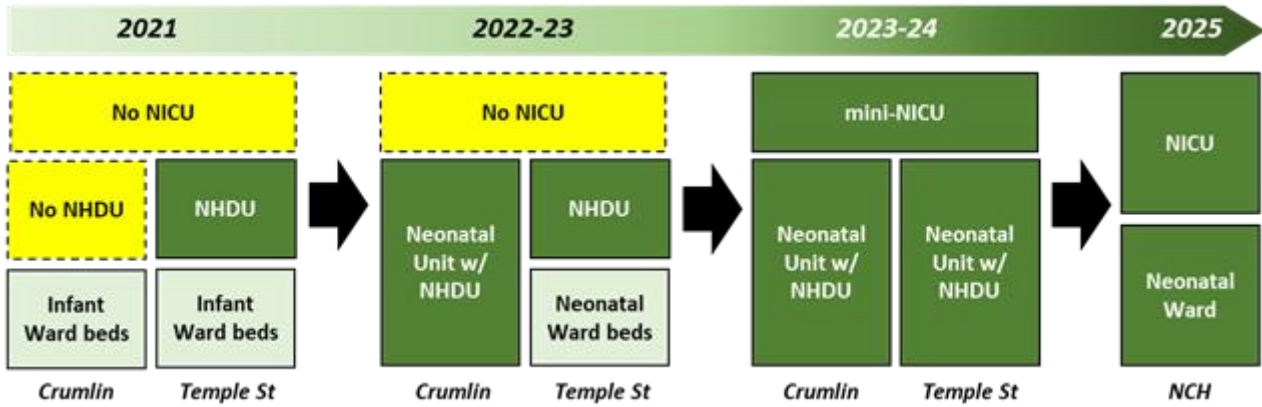
A key finding was the importance of a thorough Risk Assessment at the outset, which articulated the need for service development and identified the establishment of a neonatal unit as a high-priority risk mitigation.

#### Conclusion:

Creating a dedicated neonatal space and HDU using established, evidence based neonatal specifications and standards was a critical step in preparing for a new NICU service, currently planned for 2024.

The key challenge of this project was accomplishing clinical goals with limited time and budget, given the impending opening and cost of the new hospital.





Pathway of the Neonatology Service at Children’s Health Ireland (CHI) to the New Children’s Hospital (NCH) opening in 2025, with development of dedicated high dependency beds on the Crumlin site.

Pathway of the Neonatology Service at Children’s Health Ireland (CHI) to the New Children’s Hospital (NCH) opening in 2025, with development of dedicated high dependency beds on the Crumlin site.

None declared

## ID 145. THE BROAD DIVERSITY OF PARENTS' EMOTIONS AND HOW PHYSICIANS RESPOND THROUGHOUT END-OF-LIFE CONVERSATIONS IN DUTCH NEONATAL AND PEDIATRIC INTENSIVE CARE UNITS: A QUALITATIVE OBSERVATIONAL STUDY

**Mrs Sanne Prins**<sup>1</sup>, Mrs Annemiek Linn<sup>2</sup>, Mr Anton van Kaam<sup>3</sup>, Mr Job van Woensel<sup>4</sup>, Mr Marc van Heerde<sup>4</sup>, Mr Peter Dijk<sup>5</sup>, Mr Martin Kneyber<sup>6</sup>, Mr Matthijs de Hoog<sup>7</sup>, Mr Sinno Simons<sup>8</sup>, Miss Aranka Akkermans<sup>9</sup>, Mrs Ellen Smets<sup>9</sup>, Mrs Mirjam de Vos<sup>1</sup>

<sup>1</sup>Department of Pediatrics, Emma Children's Hospital, Amsterdam University Medical Center, Amsterdam, Netherlands, <sup>2</sup>Amsterdam School of Communication Research, University of Amsterdam, Amsterdam, Netherlands, <sup>3</sup>Department of Pediatrics, Division of Neonatology, Emma Children's Hospital, Amsterdam University Medical Center, Amsterdam, Netherlands, <sup>4</sup>Department of Pediatrics, Division of Pediatric Intensive Care, Emma Children's Hospital, Amsterdam University Medical Center, Amsterdam, Netherlands, <sup>5</sup>Department of Pediatrics, Division of Neonatology, Beatrix Children's Hospital, University Medical Center Groningen, Groningen, Netherlands, <sup>6</sup>Department of Pediatrics, Division of Pediatric Critical Care Medicine, Beatrix Children's Hospital, University Medical Center Groningen, Groningen, Netherlands, <sup>7</sup>Department of Pediatrics, Division of Pediatric Intensive Care, Sophia Children's Hospital, Erasmus University Medical Center, Rotterdam, Netherlands, <sup>8</sup>Department of Pediatrics, Division of Neonatology, Sophia Children's Hospital, Erasmus University Medical Center, Rotterdam, Netherlands, <sup>9</sup>Department of Medical Psychology, Amsterdam University Medical Center, Amsterdam, Netherlands

### Background and Objectives

Recognizing and adequately responding to parents' emotions is crucial for healthcare providers to offer informational and emotional guidance to parents of critically ill neonates and children receiving intensive care. In this study, we explored which



emotions parents expressed, how physicians responded to these emotions, and parents' subsequent emotional expressions during conversations in which decisions about the continuation or discontinuation of the child's life-sustaining treatment needed to be made.

## Methods

Physicians working at neonatal and pediatric intensive care units of three university medical centers audio recorded their conversations with parents, starting from the moment doubts arose about whether treatment was still in the child's best interests. The researchers qualitatively and inductively coded transcripts of these conversations (Nconversations= 49; Ncases= 12). The identification of the type of emotion which parents expressed, how they expressed this emotion, and physicians' type of responses to these emotions, guided this process. Analysis was done by means of the software tool MAXQDA.

## Results

In all conversations, parents expressed a broad range of often intertwining emotions, including anxiety, anger, devotion, grief, relief, hope, and guilt. Implicit expressions of anxiety prevailed. By predominantly responding with a cognition-oriented approach to parents' emotions, physicians were inclined to reduce the opportunity for parents to elaborate on their emotions. Subsequently, emotional expressions like anger and protectiveness appeared to intensify while parents' anxiety remained under the surface. When parents' emotional expressions were more tangible or explicit, for instance grief when the child's death was imminent, or unrelated to physicians' actions, such as anger concerning the child's situation rather than the adequacy of care provided by physicians, physicians were found to offer parents helpful guidance in both affect- and cognition-oriented ways.



## Conclusions

To our knowledge, this is the first prospective study to obtain a more profound understanding of the broad range of emotions which parents express throughout end-of-life conversations, including their emotional expressions following physicians' responses. Our insights may help physicians to timely recognize parents' emotions, especially their anxiety, and enhance physicians' ability to respond more adequately to parents' emotions, thereby offering parents emotional and informational support during turmoil times.



Type of response	No. (%) (n = 762)	Definition	Illustrative quotes	Mainly reduces or provides the opportunity to elaborate on emotion
<b>Cognition-oriented</b>				
1. Defending	23 (3)	Justifying the provided information, proposed treatment plan, or medical actions.	<p>Q1.3 Mother: "It's just that information has been provided to us too early! It was a real slip in the face." Physician: "We have no choice, we have to be honest about what we see and what we think. That is also in the line, we have no choice." Mother: "Well I think you... Others say something else, then again others say something different again" (NICU)</p> <p>Q1.2 Mother: "But his growth is started, because you are withholding food from him." Physician: "No, no, no, that's not our fault, because even with parental nutrition growth should be possible." Mother: "Yes, whatever" (NICU)</p> <p>Q1.3 Mother: "But then, yeah, I think what kind of consequences this will have for our future." Physician: "Yes, yes I get it. A clinical geneticist can explain that to you" (NICU) Q1.2 Father: "So... that's what very it means." Physician: "You are religious people" (NICU)</p>	Reduces opportunity
2. Reorienting	44 (6)	Directing the conversation away from parents' emotional expression(s) toward another issue.	<p>Q1.3 Mother: "The side effects of a surgery are not certain and everything that's uncertain gives me the reason to be hopeful." Physician: "Reassuring, I was under the impression that you... at least that was my feeling listening to you. That you did not want that for your child, because he would suffer, but now you are saying something different." Mother: "Yes, because it's still my child, and I hold on to the hope and belief that she chose to be born and to be here in my family" (NICU)</p> <p>Q1.2 Mother: "That's not the life I want for her." Physician: "And then we're coming back to the matter of ventilation that we previously discussed. Remember how you thought about that? If we discontinue ventilation, it also means that we won't intubate her again. In that case, she has to breathe on her own. Well, maybe, that's a sign, that she shows that she can't do it." Mother: "I'm not blindly accepting your plan and this scenario. You forget other potential scenarios, such as the possibility that she can breathe on her own" (NICU)</p>	Reduces opportunity
3. Repeating (in a steering way)	8 (1)	Repeating or reforming previously uttered issues, seemingly in an attempt to steer the conversation.	<p>Q1.3 Mother: "I've been here, just give her some more time!" (Sister of other child) also did not always do what he was supposed to do right after he was born." Physician: "But, the situation of your other child was completely different. He was able to breathe on his own." Mother: "At this time, I haven't given up on her, and I will not do so!" (NICU)</p> <p>Q1.2 Father: "I want to give him another chance. I've seen other children who were also resuscitated and they also turned out fine." Physician: "But it's important to note that further brain damage can occur due to lack of oxygen, if we resuscitate him." Father: "But since we're already going beyond what we initially discussed, by intubating him again, I am willing to take this extra step for my own child" (NICU)</p>	Reduces opportunity
4. Arguing	18 (2)	Arguing/contradicting/objection parents' emotional expressions (e.g., by stating "but...").	<p>Q1.3 Mother: "I'm quite shocked and frightened by this news." Physician: "I wish, we think that we have to give her this medication. And that we have to wait and see and monitor her response for at least a week, why is that, because we at least have to wait to determine the proper dosage." Mother: "I honestly have my doubts about this plan, I really did not expect this from you, and I actually don't think it'll work" (PICU)</p> <p>Q1.3 Mother: "But well, I mean, could we have prevented this?" Physician: "You did not do anything wrong. What you did is giving your child some food, and that is very important, but for some children with metabolic disorders this can lead to extremely high ammonia levels. You could have prevented that by not giving him any food, but then I would have been mad at you, because it's natural for parents to feed their baby and it would have been wrong if you did not give him any food" (PICU)</p>	Reduces opportunity
5. Explaining	221 (29)	Providing explanations and medical information to parents about the child's situation and possible future developments.	<p>Q1.3 Mother: "I'm quite shocked and frightened by this news." Physician: "I wish, we think that we have to give her this medication. And that we have to wait and see and monitor her response for at least a week, why is that, because we at least have to wait to determine the proper dosage." Mother: "I honestly have my doubts about this plan, I really did not expect this from you, and I actually don't think it'll work" (PICU)</p> <p>Q1.3 Mother: "But well, I mean, could we have prevented this?" Physician: "You did not do anything wrong. What you did is giving your child some food, and that is very important, but for some children with metabolic disorders this can lead to extremely high ammonia levels. You could have prevented that by not giving him any food, but then I would have been mad at you, because it's natural for parents to feed their baby and it would have been wrong if you did not give him any food" (PICU)</p>	Reduces opportunity
6. Providing short confirmations	74 (10)	Using minimal language to factually affirm or validate parents' emotional expressions, without explicitly relating to the emotion, or further explaining or exploring.	<p>Q1.3 Mother: "But then, yeah, I think what kind of consequences this will have for our future." Physician: "Yes, yes I get it. A clinical geneticist can explain that to you" (NICU) Q1.2 Father: "So... that's what very it means." Physician: "You are religious people" (NICU)</p> <p>Q1.3 Mother: "I'm quite shocked and frightened by this news." Physician: "I wish, we think that we have to give her this medication. And that we have to wait and see and monitor her response for at least a week, why is that, because we at least have to wait to determine the proper dosage." Mother: "I honestly have my doubts about this plan, I really did not expect this from you, and I actually don't think it'll work" (PICU)</p>	Reduces opportunity
7. Managing expectations	37 (5)	Helping parents to realize/prepare for an outcome or a situation.	<p>Q1.3 Mother: "I'm quite shocked and frightened by this news." Physician: "I wish, we think that we have to give her this medication. And that we have to wait and see and monitor her response for at least a week, why is that, because we at least have to wait to determine the proper dosage." Mother: "I honestly have my doubts about this plan, I really did not expect this from you, and I actually don't think it'll work" (PICU)</p> <p>Q1.3 Mother: "But well, I mean, could we have prevented this?" Physician: "You did not do anything wrong. What you did is giving your child some food, and that is very important, but for some children with metabolic disorders this can lead to extremely high ammonia levels. You could have prevented that by not giving him any food, but then I would have been mad at you, because it's natural for parents to feed their baby and it would have been wrong if you did not give him any food" (PICU)</p>	Provides opportunity or reduces opportunity
8. Reassuring	14 (2)	Making a statement in an attempt to relieve or attenuate parents' emotions/concerns.	<p>Q1.3 Mother: "I'm quite shocked and frightened by this news." Physician: "I wish, we think that we have to give her this medication. And that we have to wait and see and monitor her response for at least a week, why is that, because we at least have to wait to determine the proper dosage." Mother: "I honestly have my doubts about this plan, I really did not expect this from you, and I actually don't think it'll work" (PICU)</p> <p>Q1.3 Mother: "But well, I mean, could we have prevented this?" Physician: "You did not do anything wrong. What you did is giving your child some food, and that is very important, but for some children with metabolic disorders this can lead to extremely high ammonia levels. You could have prevented that by not giving him any food, but then I would have been mad at you, because it's natural for parents to feed their baby and it would have been wrong if you did not give him any food" (PICU)</p>	Provides opportunity or reduces opportunity
9. Acknowledging	114 (15)	Recognizing parents' emotions and emotionally draining situations (e.g., by stating "I understand" or "I know").	<p>Q1.3 Mother: "I'm quite shocked and frightened by this news." Physician: "I wish, we think that we have to give her this medication. And that we have to wait and see and monitor her response for at least a week, why is that, because we at least have to wait to determine the proper dosage." Mother: "I honestly have my doubts about this plan, I really did not expect this from you, and I actually don't think it'll work" (PICU)</p> <p>Q1.3 Mother: "But well, I mean, could we have prevented this?" Physician: "You did not do anything wrong. What you did is giving your child some food, and that is very important, but for some children with metabolic disorders this can lead to extremely high ammonia levels. You could have prevented that by not giving him any food, but then I would have been mad at you, because it's natural for parents to feed their baby and it would have been wrong if you did not give him any food" (PICU)</p>	Provides opportunity or reduces opportunity
10. Making it explicit	14 (2)	Clearly stating or naming the emotion(s) that parents expressed explicitly.	<p>Q1.3 Mother: "I'm quite shocked and frightened by this news." Physician: "I wish, we think that we have to give her this medication. And that we have to wait and see and monitor her response for at least a week, why is that, because we at least have to wait to determine the proper dosage." Mother: "I honestly have my doubts about this plan, I really did not expect this from you, and I actually don't think it'll work" (PICU)</p> <p>Q1.3 Mother: "But well, I mean, could we have prevented this?" Physician: "You did not do anything wrong. What you did is giving your child some food, and that is very important, but for some children with metabolic disorders this can lead to extremely high ammonia levels. You could have prevented that by not giving him any food, but then I would have been mad at you, because it's natural for parents to feed their baby and it would have been wrong if you did not give him any food" (PICU)</p>	Provides opportunity
11. Exploring	51 (7)	Encouraging or inviting parents to share and disclose emotional expressions (e.g., by asking questions, to obtain more information about the expressed emotion).	<p>Q1.3 Mother: "I'm quite shocked and frightened by this news." Physician: "I wish, we think that we have to give her this medication. And that we have to wait and see and monitor her response for at least a week, why is that, because we at least have to wait to determine the proper dosage." Mother: "I honestly have my doubts about this plan, I really did not expect this from you, and I actually don't think it'll work" (PICU)</p> <p>Q1.3 Mother: "But well, I mean, could we have prevented this?" Physician: "You did not do anything wrong. What you did is giving your child some food, and that is very important, but for some children with metabolic disorders this can lead to extremely high ammonia levels. You could have prevented that by not giving him any food, but then I would have been mad at you, because it's natural for parents to feed their baby and it would have been wrong if you did not give him any food" (PICU)</p>	Provides opportunity
12. Being silent	71 (9)	Providing a clear pause/silence (4-5 seconds).	<p>Q1.3 Mother: "I'm quite shocked and frightened by this news." Physician: "I wish, we think that we have to give her this medication. And that we have to wait and see and monitor her response for at least a week, why is that, because we at least have to wait to determine the proper dosage." Mother: "I honestly have my doubts about this plan, I really did not expect this from you, and I actually don't think it'll work" (PICU)</p> <p>Q1.3 Mother: "But well, I mean, could we have prevented this?" Physician: "You did not do anything wrong. What you did is giving your child some food, and that is very important, but for some children with metabolic disorders this can lead to extremely high ammonia levels. You could have prevented that by not giving him any food, but then I would have been mad at you, because it's natural for parents to feed their baby and it would have been wrong if you did not give him any food" (PICU)</p>	Provides opportunity
13. Expressing compassion	34 (4)	Imagining what parents might be thinking or feeling, showing sympathy and sadness.	<p>Q1.3 Mother: "I'm quite shocked and frightened by this news." Physician: "I wish, we think that we have to give her this medication. And that we have to wait and see and monitor her response for at least a week, why is that, because we at least have to wait to determine the proper dosage." Mother: "I honestly have my doubts about this plan, I really did not expect this from you, and I actually don't think it'll work" (PICU)</p> <p>Q1.3 Mother: "But well, I mean, could we have prevented this?" Physician: "You did not do anything wrong. What you did is giving your child some food, and that is very important, but for some children with metabolic disorders this can lead to extremely high ammonia levels. You could have prevented that by not giving him any food, but then I would have been mad at you, because it's natural for parents to feed their baby and it would have been wrong if you did not give him any food" (PICU)</p>	Provides opportunity
<b>Affect-oriented</b>				

Physicians' Responses to Parents' Emotions  
Physicians' Responses to Parents' Emotions  
None declared



## ID 88. Implementing a process to print medication infusion labels in Neonatal Intensive Care Units using implementation science.

**Miss Orla Sheehan**<sup>1</sup>, Ms Lucille Bradfield, Ms Grainne McNabola, Ms Kate Finch, Mr Brian Kehoe, Prof Brian Cleary, Dr Brendan Murphy, Dr Joye McKernan, Prof Richard A Greene

<sup>1</sup>University College Cork, Cork, Ireland

### Background

Medication errors are the most common type of medical errors in neonatal units. Sick newborns receiving high risk and complex infusions are at greater risk of medication errors. In one tertiary neonatal unit in the Republic of Ireland, the practice of ordering and recording the administration of standard concentrated infusions (SCIs) was completed on the National Newborn Electronic Health record (EHR). However, the process of labelling the syringe was a handwritten process followed by manual programming of the infusion pump. Handwritten syringe infusion labels, however, have been associated with infusion pump programming errors during simulation studies due to transcription errors. Following the software development, this project introduced the printing of medication labels directly from the ordered SCI in the EHR.

### Methods

Implementation Science was used to implement this change into clinical practice. Implementation science is the study of methods, translating research into practice. The framework used was Action, Actor, Context, Target, and Time (AACTT Framework). The AACTT framework focuses on the person and the actions needed to achieve the outcome. The AACTT framework breaks down the necessary steps and identifies the areas for change which is similar to workflow development and adaptation.

## Results

Following assessment, a number of implementation strategies were identified and used to implement the new process. Training was required for all nursing staff; training materials were developed and distributed, champions were identified as support during the process and all required technology was acquired and in place prior to go live. Flexibility and adaption were required around training due to clinical need and clinical activity.

## Conclusion

The new process of printing labels directly from the EHR Order was successfully implemented. Implementation Science is extremely useful in the acute healthcare setting. Implementing change around complex processes for sick newborns can be aided by implementation science strategies and evaluations.

AACTT Framework	
<b>A- Action</b>	Print Syringe Infusion labels from the EHR Order
<b>A- Actor</b>	NICU Nurse
<b>C- Context</b>	Neonatal ICU Setting
<b>T- Target</b>	NICU patient with a new order for a Standard Concentrated Infusion
<b>T- Time</b>	After the order is placed and before preparing the infusion

AACTT Framework: A breakdown of the necessary steps for implementation in the clinical setting

AACTT Framework: A breakdown of the necessary steps for implementation in the clinical setting

None declared



## ID 546. PARENTS' AND NEONATAL HEALTHCARE PROFESSIONALS' VIEWS ON BARRIERS AND FACILITATORS TO PARENTAL PRESENCE IN THE NEONATAL UNIT

**Miss Stephanie Schmid**<sup>1</sup>, Dr André Kidszun<sup>2</sup>, Doctor Christine Arnold<sup>2</sup>

<sup>1</sup>Faculty of Health Sciences and Medicine, University of Lucerne, Lucerne, Switzerland,

<sup>2</sup>Division of Neonatology, Department of Paediatrics, Inselspital, Bern University Hospital, University of Bern, Bern, Switzerland

Background: Parent and infant separation in the neonatal unit is associated with adverse health outcomes. Care approaches such as kangaroo mother care have benefits and the potential to reduce these outcomes for parents and infants. The aim of this study was to explore the views of parents and neonatal healthcare professionals (nHCPs) on the barriers and facilitators to parental presence in the neonatal unit.

Methods: Data were collected through semi-structured interviews with parents and focus group discussions with nHCPs. Inductive content analysis was used to identify barriers and facilitators to parental presence in the neonatal unit.

Results: Twenty parents (10 mothers and 10 fathers) and 21 nHCPs (10 nurses and 11 physicians) participated in the study. Parents and nHCPs experienced barriers and facilitators in relation to six issues: (1) Structural factors of the hospital and distance to the neonatal unit were equally mentioned as barriers or facilitators by mothers, fathers and nHCPs. Financial aspects were mentioned as a challenge, but did not influence the frequency of parental presence. (2) Organisation and time management, e.g. balancing activities of daily life and work was reported as a challenge mainly by fathers. (3) Parents' own health was perceived as a significant barrier. Pain and





immobilisation mainly affected mothers. Emotional stress affected both parents. Breaks and rest were important physical and mental facilitators. (4) Resources related to the social environment, support from health services, family and friends were found to be supportive. (5) Parent–professional interaction influenced parental presence through their communication, relationship, and interaction in infant care. (6) Cultural background and language barriers led to a lower presence at the neonatal unit.

Conclusions: Multifactorial barriers and facilitators determine both the quantity and the quality of parental presence in the neonatal unit. Mothers and fathers report being affected by different factors, and parents and nHCPs have different perspectives that provide complementary insights into the issue. This study provides some starting points for supporting parents to improve the quantity and quality of parental presence in the neonatal unit.

None declared.

## ID 85. TRIAL-RELATED BLOOD SAMPLING AND RED BLOOD CELL TRANSFUSIONS IN PRETERM INFANTS

**Mrs Susanne Soendergaard Kappel**<sup>1,2</sup>, Anna Elisabeth Lewis<sup>3</sup>, Samya Hussain<sup>2</sup>, Professor Per Torp Sangild<sup>1,2,4</sup>, Professor Gitte Zachariassen<sup>4,5</sup>, Lise Aunsholt<sup>1,2,6</sup>

<sup>1</sup>University Hospital Copenhagen Denmark, Rigshospitalet, Copenhagen, Denmark,

<sup>2</sup>Comparative Pediatrics and Nutrition, University of Copenhagen, , Danmark,

<sup>3</sup>Department of Neonatology, Nordsjællands Hospital, , Danmark, <sup>4</sup>Hans Christian Andersen Children's Hospital, Odense University Hospital, , Denmark, <sup>5</sup>Department of Clinical Research, University of Southern, Odense, Denmark, <sup>6</sup>Department of Clinical Medicine, University of Copenhagen, , Denmark

Background: Clinical improvements in obstetrics and neonatology depend on clinical trials and many of these require additional blood sampling beyond routine sampling for clinical assessment. Hence, trials may increase blood loss and the risk of red blood cell (RBC) transfusion. On the other hand, modern biochemical analyses often allow multiple physiological endpoints from a small volume of blood/plasma. This study aimed to determine if trial-related blood sampling was associated with an increased risk of later RBC transfusion.

Methods: A total of 193 very preterm infants participated in the FortiColos trial (NCT03537365) and had trial-related blood samples drawn to measure at least 20 amino acids, seven hormones, 30 cytokines/chemokines and additional clinical chemistry parameters. The volume drawn was in accordance with ethical considerations established by the European Commission. Type of blood tests (clinical or trial-related) and number of RBC transfusions during the first 30 postnatal days were examined from medical records. The estimated volume of each type of blood test was used to compute the total volume of blood loss per day (mL/kg).

Results: Mean gestational age and birth weight were  $28 \pm 1$  weeks and  $1168 \pm 301$  g. There was a higher sampling-related blood loss during the first week of life compared with the second (1.3, IQR: 0.8–1.9 mL/kg) and the third week of life (1.1, IQR: 0.6–1.9 mL/kg), both  $p < 0.01$ . Approximately 11% of the total blood volume was drawn for clinical routine sampling ( $8.1 \pm 5.3$  mL/kg) during the first 30 days. There was a positive correlation between sampling-related blood volume (mL/kg) and the need for RBC transfusions ( $p < 0.01$ ). Trial-related sampling accounted for  $1.6 \pm 0.6$  mL/kg but had no effect on RBC transfusion ( $p=0.9$ ).

Conclusion: This study confirmed that clinical blood sampling in very preterm infants is associated with significant blood loss and relates to later RBC transfusions. We found no additional effect of additional trial-related blood samples. Our study suggests that trial-related sampling constitutes a minor proportion of the total blood loss from sampling of hospitalized very preterm infants and is safe if European criteria are followed.

None declared

## ID 172. WOMEN'S BODILY EXPERIENCE OF ANTENATAL BREASTMILK EXPRESSION

**Mrs Sarah Bentzen**<sup>1,2,3</sup>, Miss Marie Bendix Simonsen<sup>1,3,4</sup>, Mrs. Kristina Garne Holm<sup>1,3,4</sup>

<sup>1</sup>H.C. Andersen Children's Hospital, Odense University Hospital, Denmark, Odense C, Denmark, <sup>2</sup>Department of Gynecology and Obstetrics, Odense University Hospital, Denmark, Odense C, Denmark, <sup>3</sup>University of Southern Denmark, SDU, Denmark, Odense C, Denmark, <sup>4</sup>Open Patient Data Explorative network, Region of Southern Denmark, Odense C, Denmark

Background: Breastfeeding provides short and long-term health benefits for both mothers and infants, especially preterm born infants. Preterm mothers have a strong inclination to provide their infants with their own milk. Breastfeeding establishment can be challenging for mothers with preterm infants due to several factors including women's perspectives on body image, emotional and physical thoughts about breastfeeding. Antenatal breastmilk expression (aBME) from 36 weeks of pregnancy has been studied in women with diabetes and may improve confidence in breastfeeding. As aBME is not recommended for women at risk of preterm delivery, and it remains unknown if aBME can be carried out earlier in pregnancy, and how women experience it. This study investigates the bodily experiences of women performing aBME from 34 weeks of pregnancy, and whether it can support women in breastfeeding establishment.

Methods: A qualitative approach was applied. Healthy first-time mothers participating in this study were recruited from the randomized controlled pilot study "The Express-MOM study" investigating aBME from 34 weeks of pregnancy. The women were interviewed between two and four weeks after birth and questions were related to body image, bodily experience of aBME, and whether aBME supported breastfeeding



establishment. The interviews were audio recorded, transcribed verbatim, and subjected to thematic content analysis.

Results: Seven women were interviewed, and three overall themes were identified. 1) A desire to feel prepared, identifying how the women had a deep-felt wish to be able to provide their infants with mothers own milk, 2) Being bodily confident, covering how the women trusted their body when seeing milk while performing aBME and this increased their confidence in breastfeeding, and 3) Being confident in the storm, entailing how knowledge about their own body was experienced when obtaining aBME, in the vulnerable first weeks of breastfeeding after birth.

Conclusion: aBME from 34 weeks of pregnancy might contribute to women feeling more prepared and confident about breastfeeding. In perspective, these results may also be beneficial for women at risk of preterm birth, due to the wish of providing exclusively breastmilk for the infant. Furthermore, it could also support the vulnerable establishment of breastfeeding in the NICU.

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