

Audit on Time From Birth to First Maternal Breastmilk in Preterm Infants <32 Weeks

Babies admitted to James Cook University Hospital Neonatal Unit from 01/03/2023 - 31/07/2023

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BAPM Guidelines & James Cook Trust Guidelines

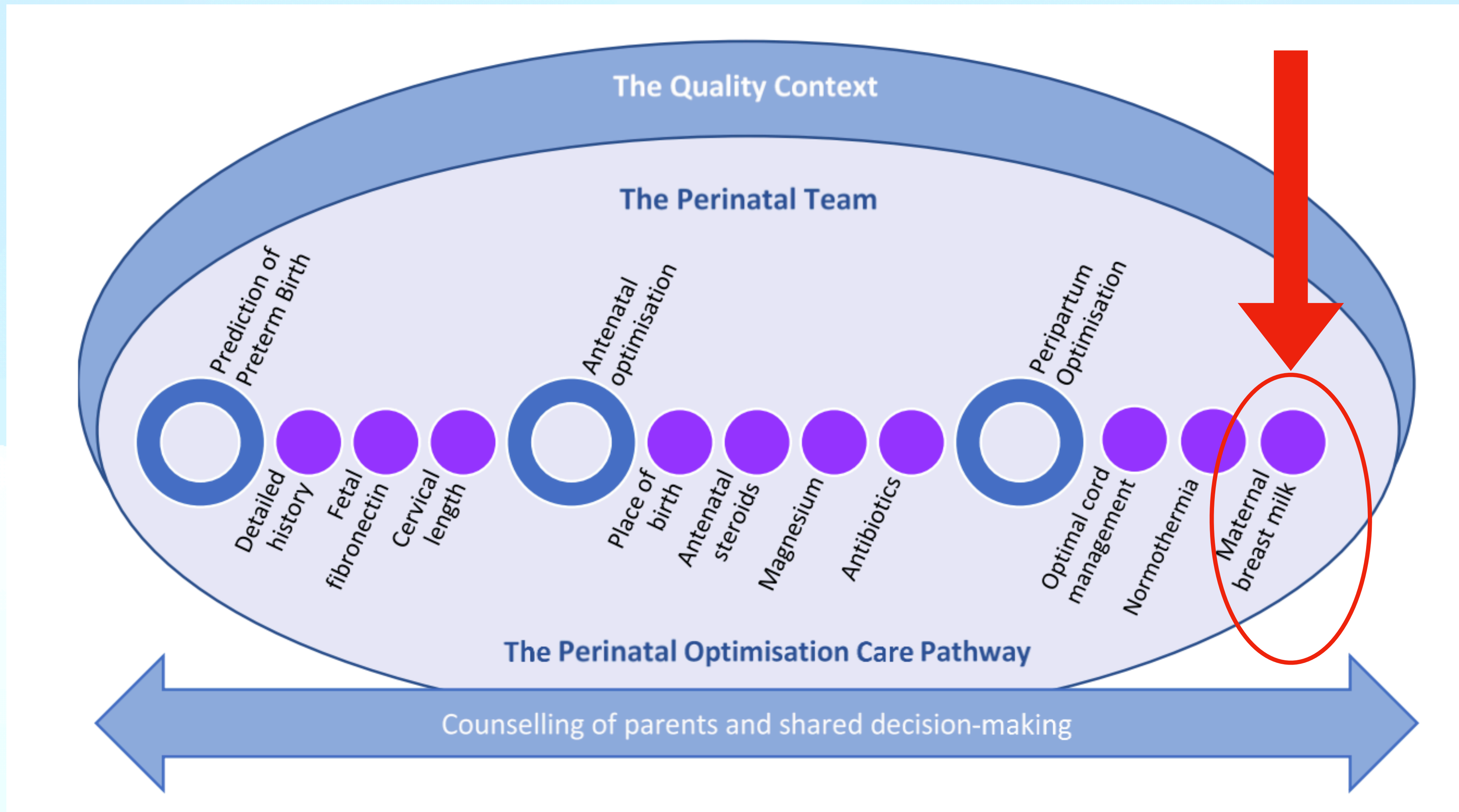
BAPM Guidelines

- Initiation of expressing soon after birth (aim **within 2 hours**)
- Early colostrum (ideally within **6 hours** of birth and **always within 24 hours**)

Trust Guidelines

- **Enteral feeding should commence as soon as possible**
- There is no evidence that delayed commencement of feeds protects against NEC in high risk infants.
- **Recently, the focus has been to start the minimal enteral feeds (trophic feeds) as soon as possible (day 1 to 3) in very preterm infants for this approach helps in gut adaptation and intestinal maturity in terms of structure and function.**

Figure 1. The Perinatal Optimisation Care Pathway



Benefits of Maternal Breastmilk

- Colostrum will **prime and protect** the very immature 'gut' of preterm and vulnerable babies
- The importance of colostrum as **mouth care**
- Lower mortality rates, lower rates of sepsis and NEC, improved neuro-developmental outcomes, lower rates of BPD, lower rates of ROP and fewer hospitalisations in the first year after discharge compared to formula
- Gastric motility **normalises more rapidly** if feeds are started early and offered frequently rather than being withheld
- The first key step to the establishment of a good maternal milk supply lies in the **perinatal period**

Outcomes

Primary:

- When maternal breastmilk first received

Secondary:

- How it was given
- When the conversation with parents regarding expressing breastmilk was first documented
- When Mum first expressed

Also undertook parental and nursing surveys for greater insight into parental and nursing experience of barriers

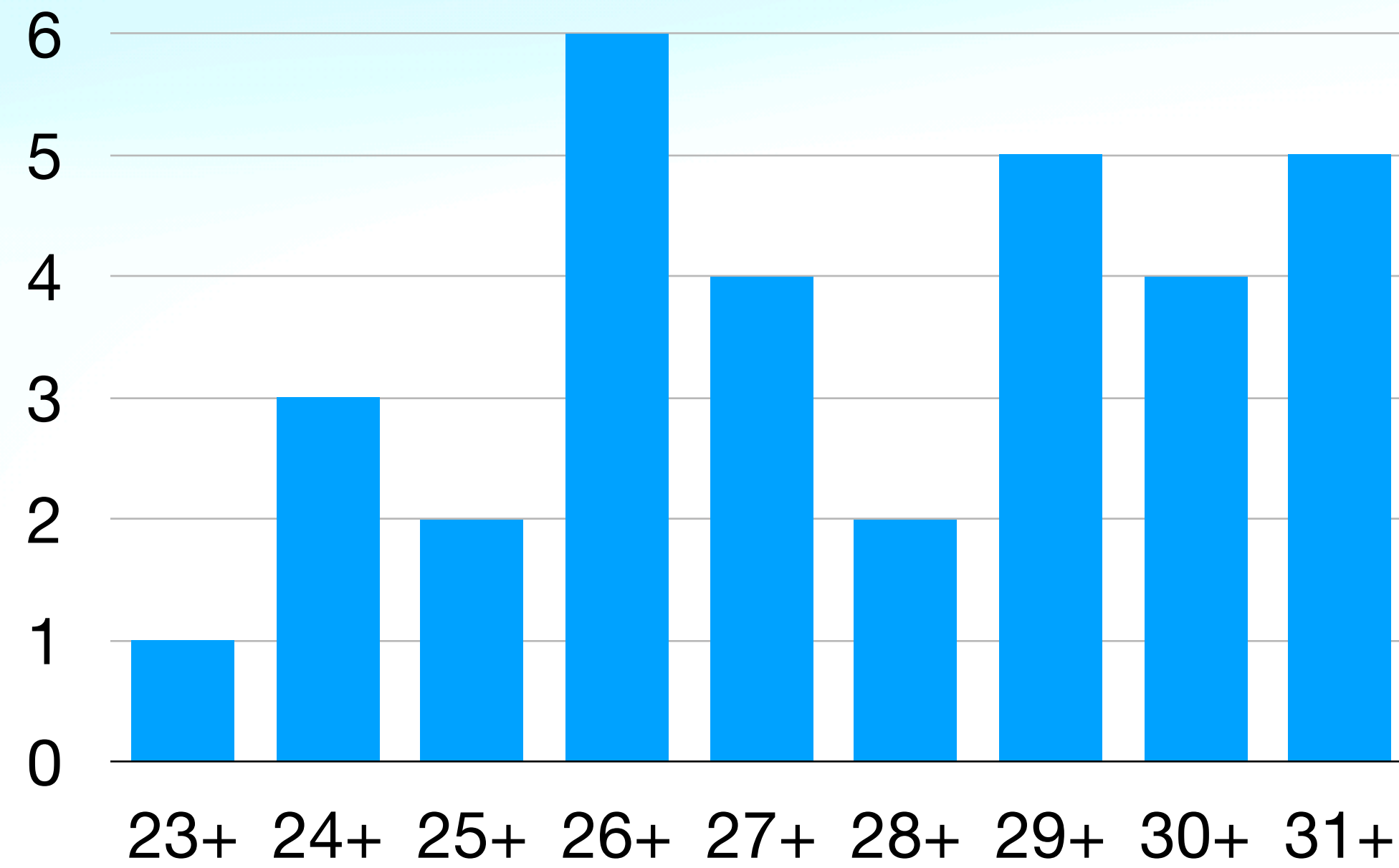
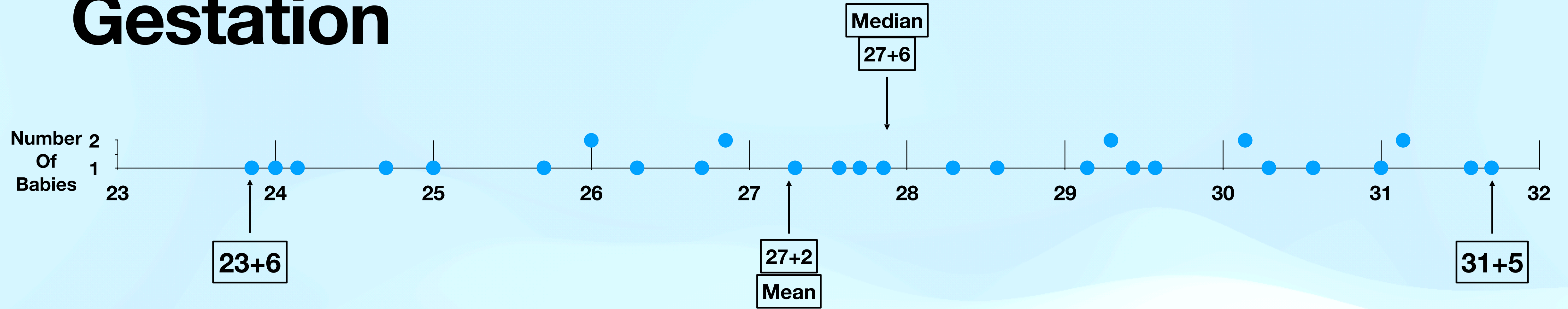
Inclusion Criteria

- Babies <32 weeks
- From 01/03/2023 until 31/07/2023
- Born in James Cook University Hospital and admitted to James Cook NICU

Method

- BadgerNet
- Filtered to babies admitted from 01/03/2023 - 31/07/2023 with a GA of between 22+0 to 31+6 weeks = **32 babies**
- Nursing care notes to check if MBM given as mouth care and also fluids and feeding section if MBM given as a feed
- Documentation for first conversation with parents regarding MBM - nursing care notes and parental communication notes
- Unicef data for when mothers first expressed

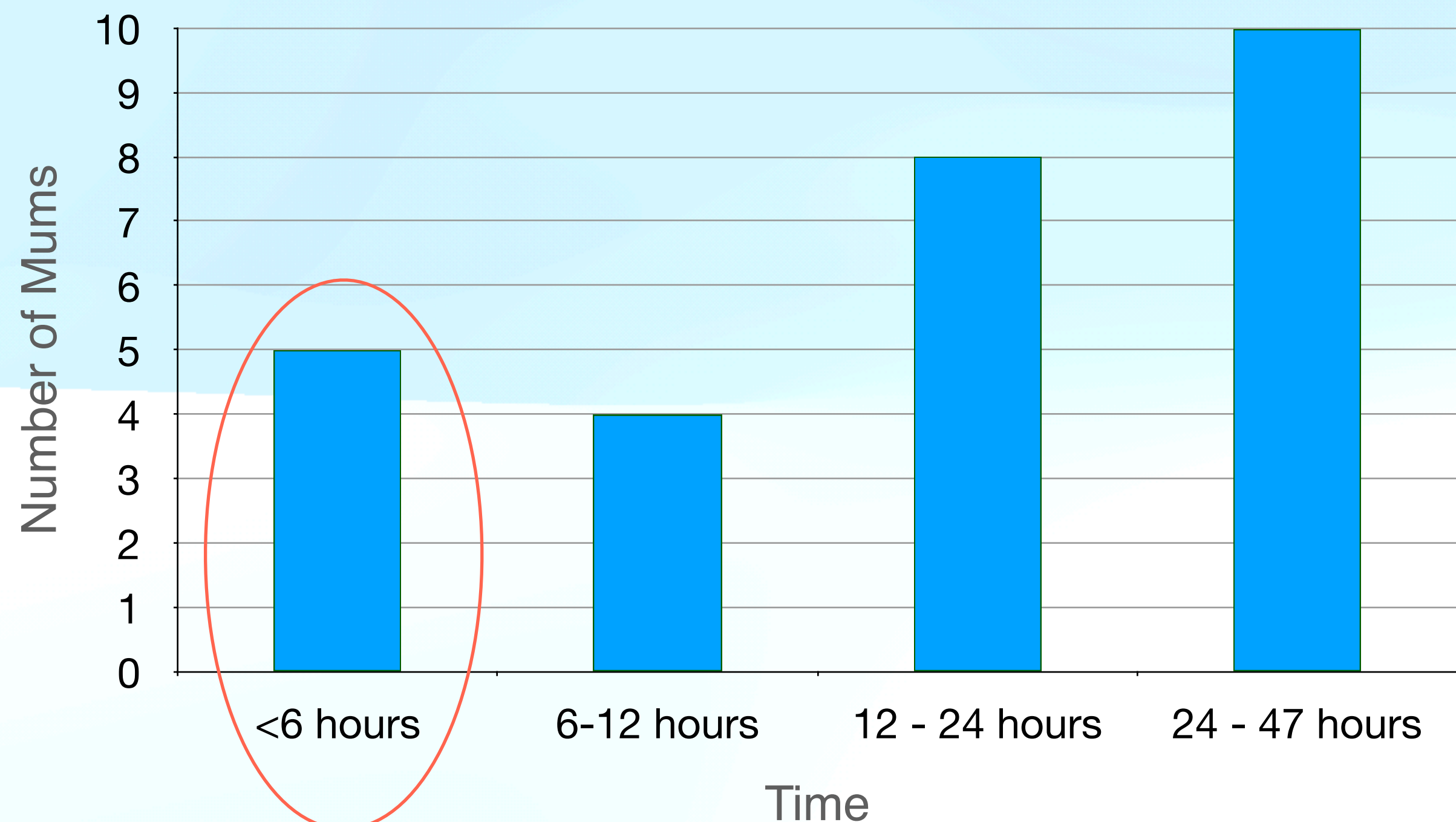
Gestation



Gestation

When First Expressed

Median 16 hours; Mean 17 hours
Time range: 2 hours -> 47 hours



5 Excluded:

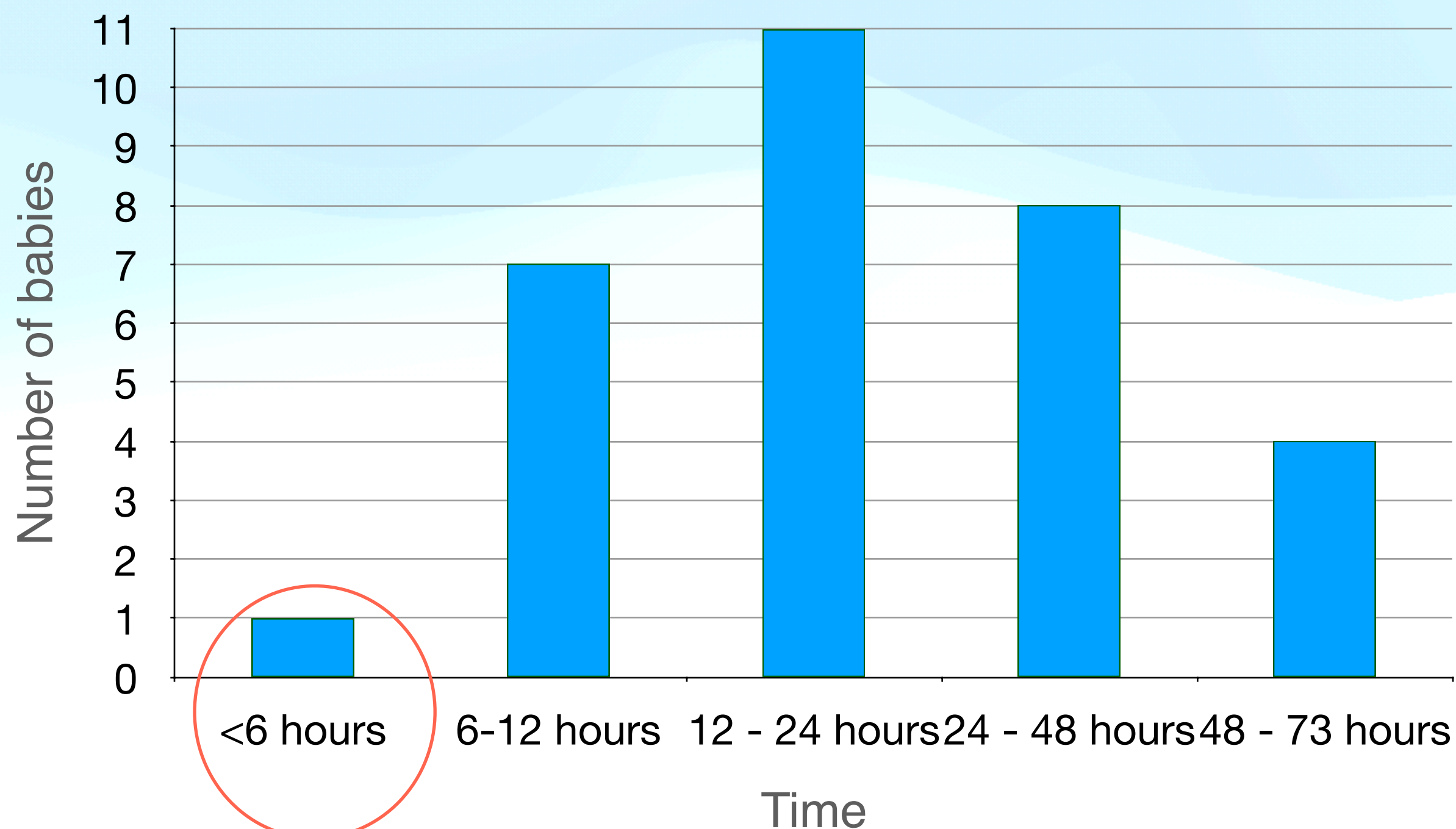
- 1 - Not documented
- 3 - Incorrect
- 1 - No MBM

Reasons for delay in obtaining MBM/expressing?

- 2 - supply issue
- 1 - Mum on HDU
- 1 - Parental choice (no MBM at all)

When First MBM Given

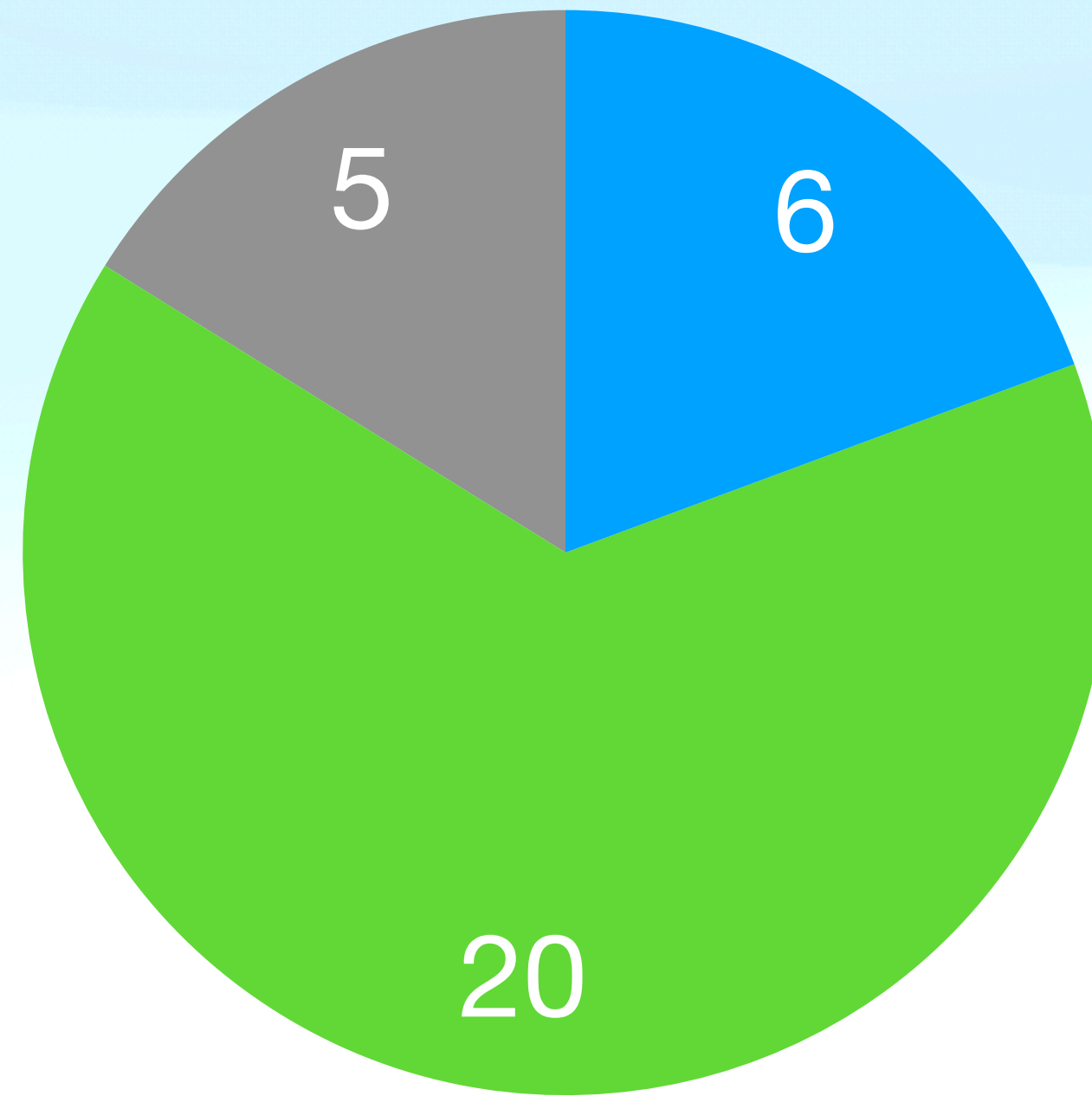
Median 19 hours; Mean 24 hours
Time range: 5h30 min -> 73 hours



All babies except one received MBM during their admission

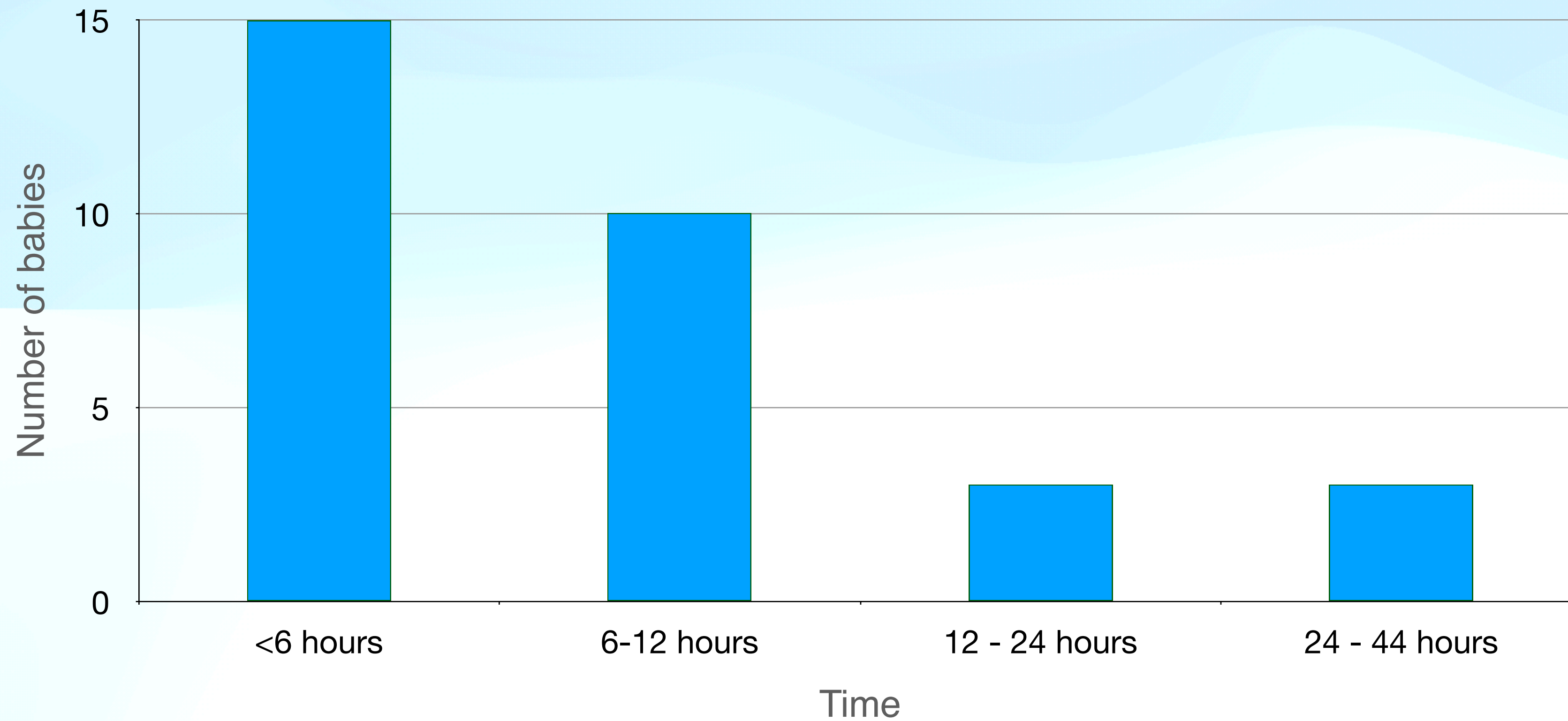
How EBM Was Given

● OGT ● Mouthcare ● Unclear



Discussion around MBM - Documentation

All but one baby had discussion around MBM documented



Parental Feedback Surveys of Their Experience

8 Responses

Grading of Support

CDS/Postnatal Ward

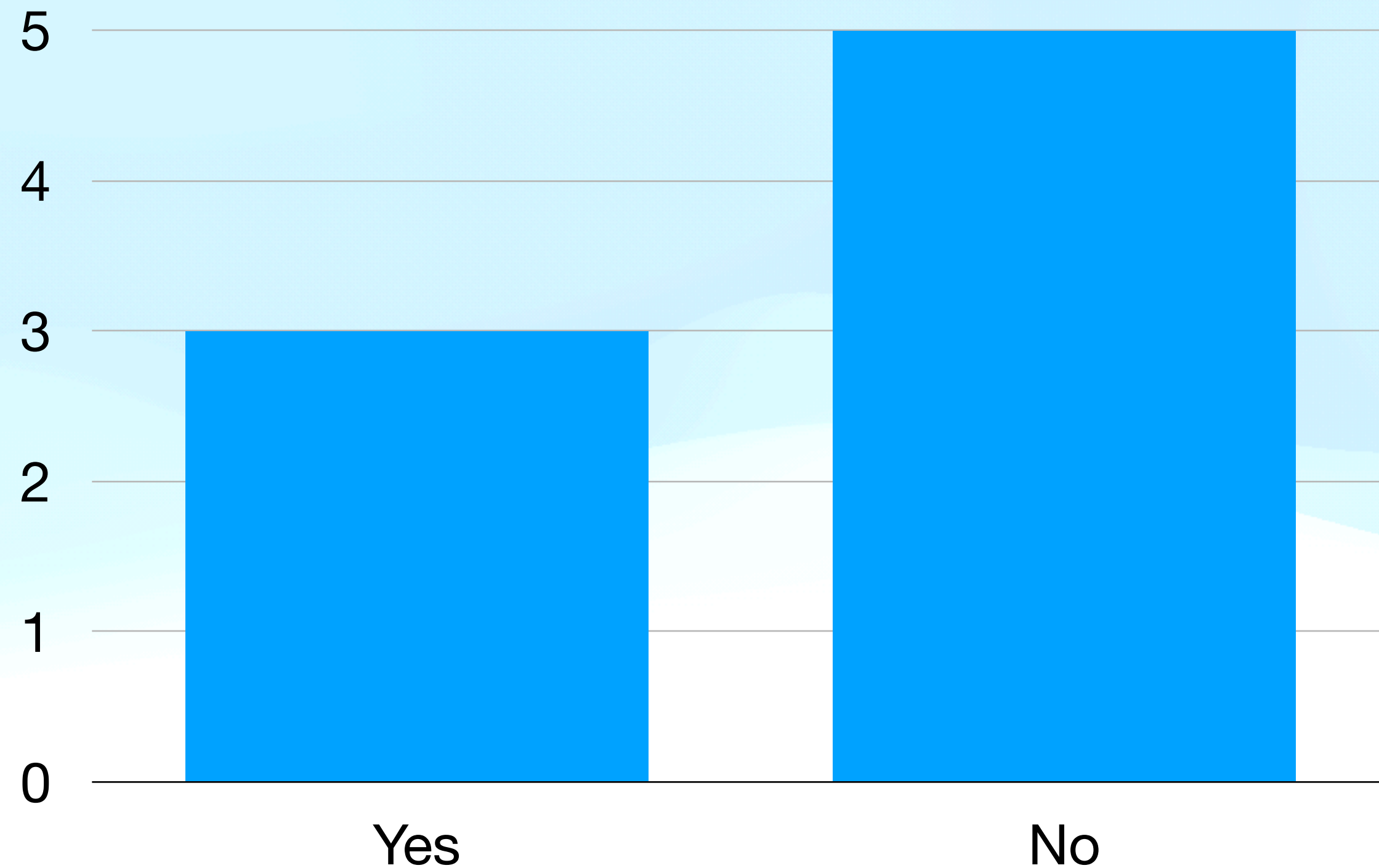
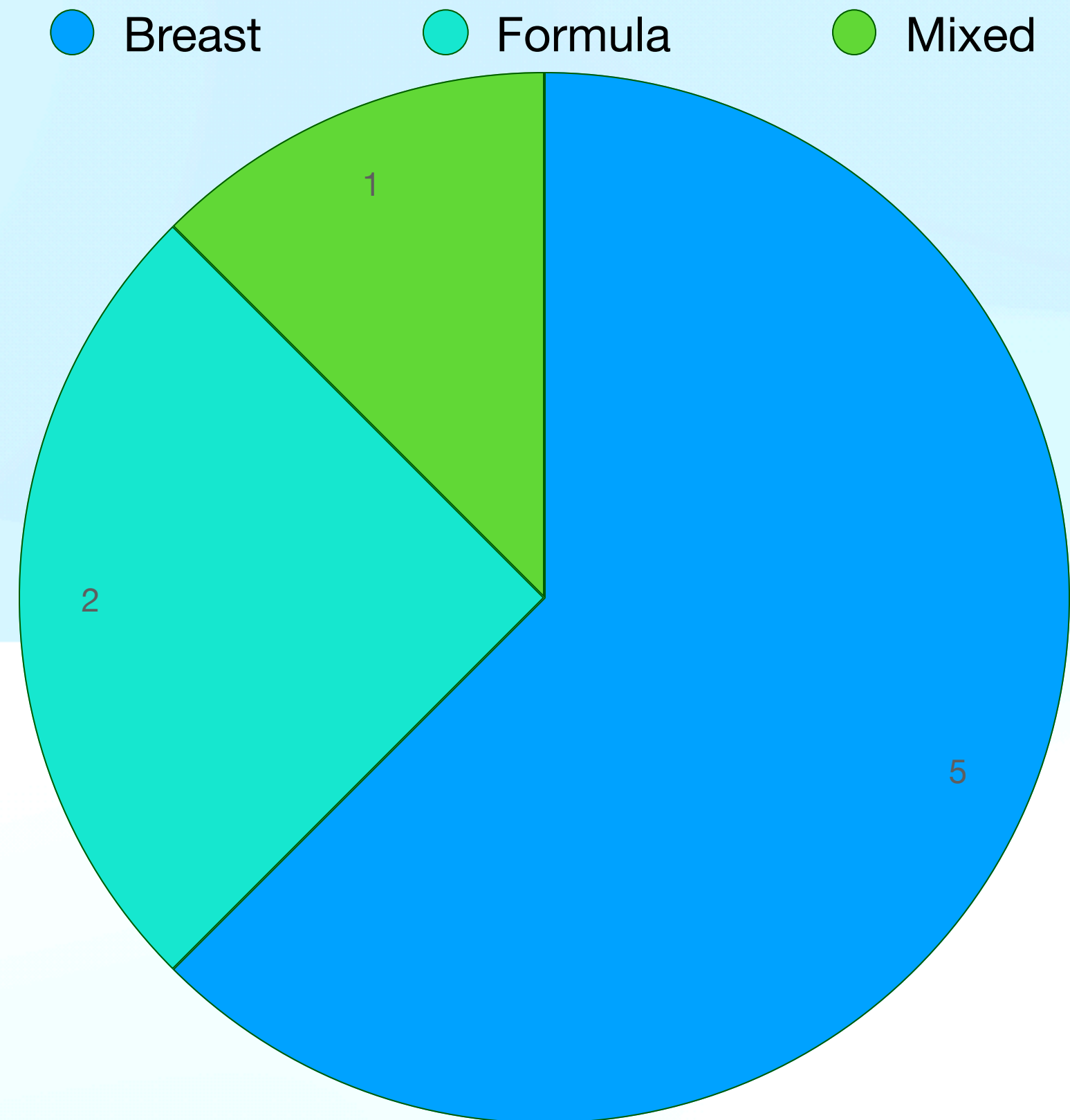
- 1st 24 hours: **8/10** (mean) and **9/10** (median)
- Overall: **7/10** and **9/10**



Neonatal Unit

- 1st 24 hours: **9/10**
- Overall: **9/10** and **10/10**

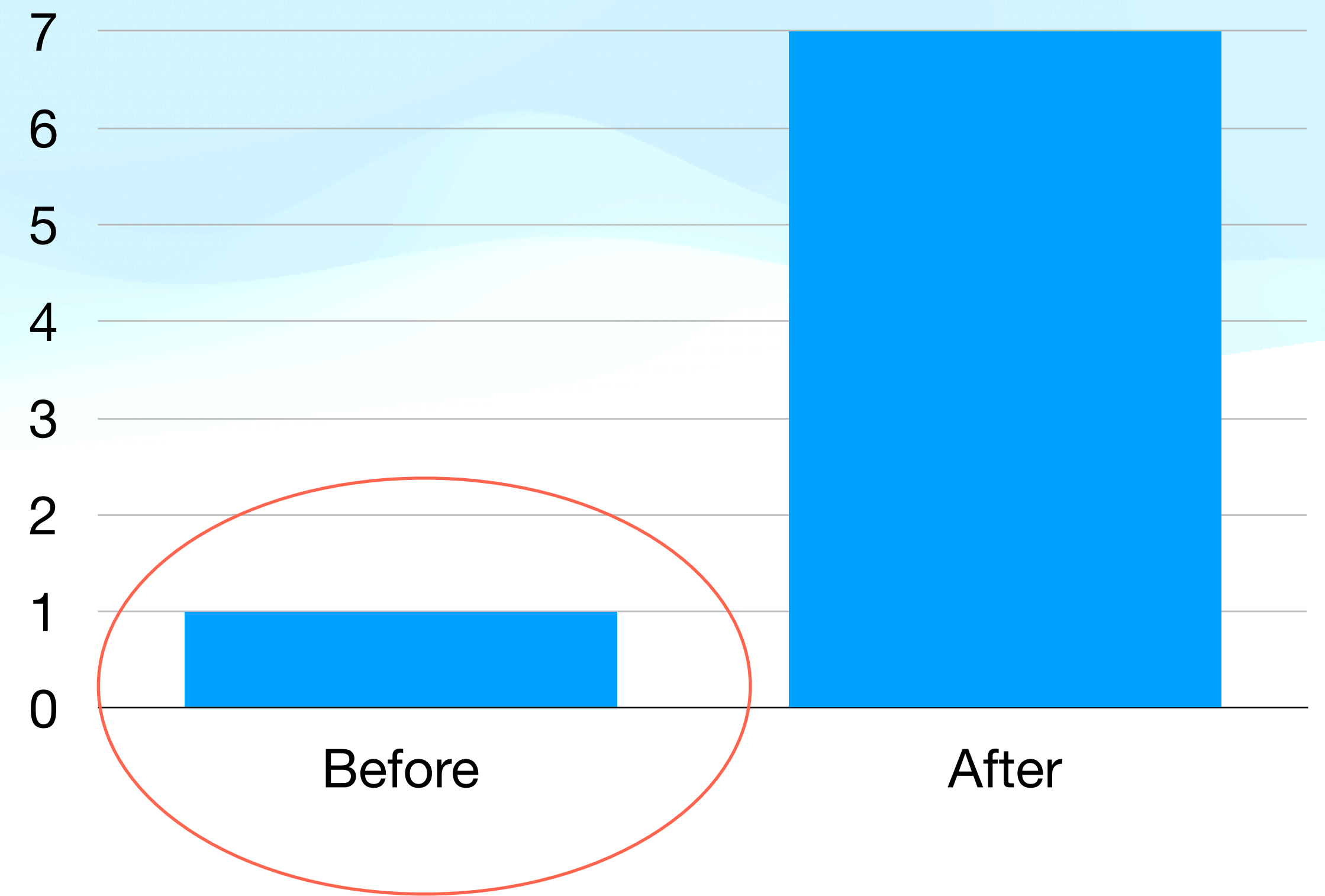
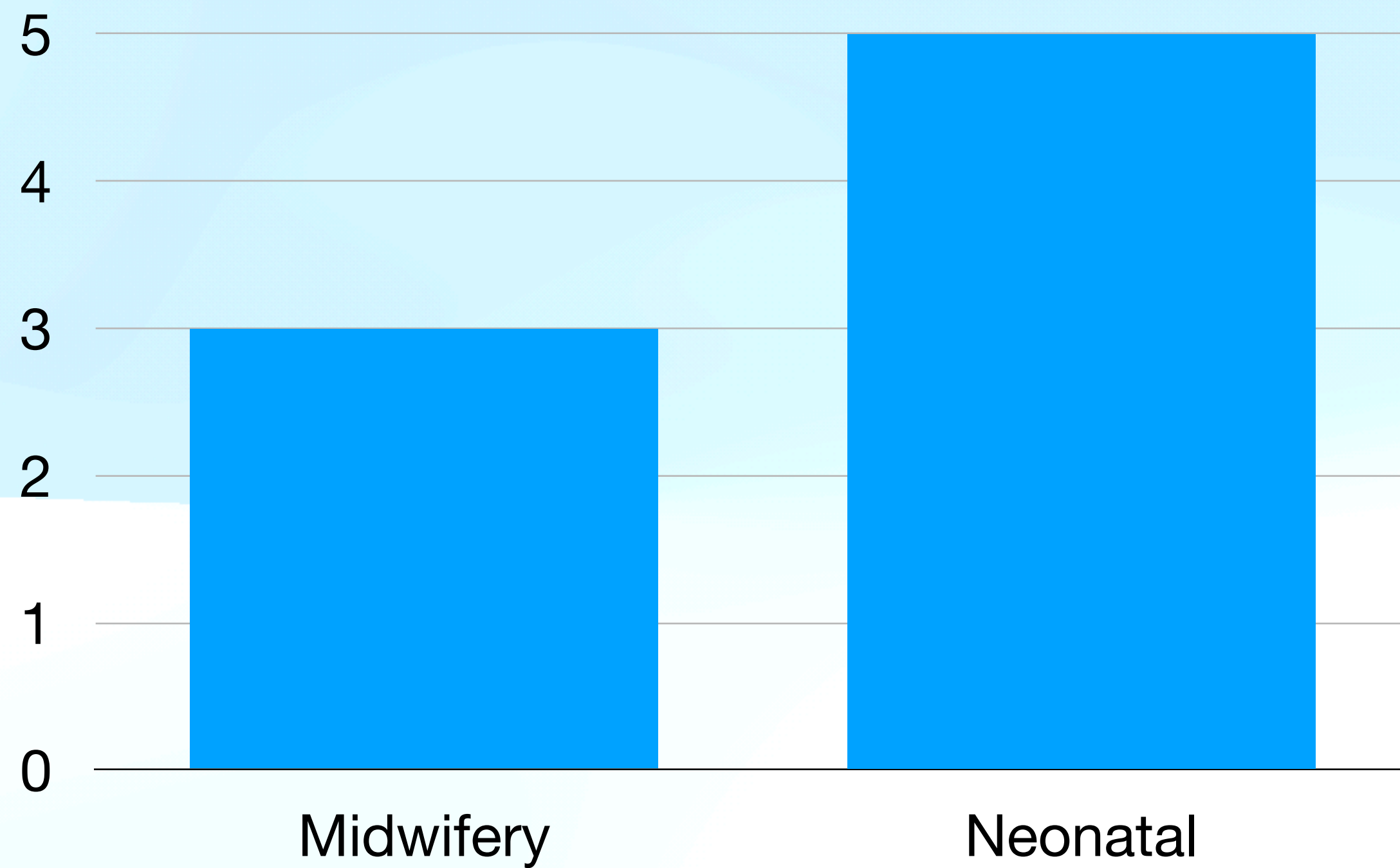
Feeding Intention Prior to Delivery, and If This Has Changed



Did your feeding intentions change?

- Changed from **formula to breastfeed**: *“To help baby develop the best he can and everyone was so encouraging about it”*
- Changed from **formula to breastfeed**: *“I would like to at least try breast due to expressing for so long already”*
- Changed from **breastfeed to formula feed**: *“As milk did not come in”*

Who had the first conversation with you regarding expressing breastmilk for your baby (neonatal or midwifery staff)? Was it before or after birth?



What We Did Well in Supporting Expressing Breastmilk

“During my stay on ward 17 I was told how to manually express and during the first night I struggled to collect my milk into a syringe and a midwife sat with me and helped me which made me feel more confident.”

“The whole event of breastfeeding was well explained. Everything they could do to help on the neonatal ward they did.”

“Supportive in troubleshooting.”

“Loaning the pump, facilities to pump on the ward, facilities to pump next to baby”

“You did very well in providing positive advice and equipped us with all the necessary tools (eg pump, bottles, sterilisers) in abundance.”

“I had a plan written out for me as I was struggling to get hardly any milk when expressing. All nurses I had gave me help with things that could help.”

“Encouraging but not forceful. Very helpful with tips and information. Didn't push me to do anything I wasn't comfortable with”

What Could We Improve Upon

“Privacy in the expressing room should be improved. There should be a system to encourage mums not to occupy the room for anything other than expressing.”

“Sometimes it is unclear when breastfeeding can start after your baby has been tube fed. People can sometimes have a different answer when you ask about when and how to start the process.”

“Clean down expressing facilities more frequently e.g. chairs, pumps, tables.”

“Less stressful. As a mum whose milk didn’t come in there was nothing more upsetting than being asked how it was going multiple times daily. Was also hard to hear the benefits when it wasn’t coming.”

“I was unaware to start expressing straight away. Maybe a bit more info on delivery suite while you are waiting to be taken to recovery ward.”

Main Barriers in Expressing Breastmilk

“There were not enough experienced staff in the postnatal ward to guide me through expressing milk for the first time. Difficulty with availability of pumping machine on postnatal unit.”

“The not knowing how to. It was done for me rather than taught.”

“The struggle to get the equipment I needed.”

“Stress, shock”

“Struggling to collect the colostrum when hand expressing on my own.”

“Emotions/ hormones”

“Surviving on shock and adrenaline and not having my baby with me. I just wanted to be with my baby and wasn’t thinking about expressing in the first 24 hours.”

What Practical Ways We Can Help

“I think the nurses and midwives do a great job and I was given advice within the first 24 hours and reassured that I was doing a good job, I don’t think they could have helped more.”

“Give a leaflet out with tips and ideas on expressing on delivery suite for you as I was there a couple of hours before being taken to neonatal and recovery suite.”

“To somehow minimise the separation between mom and babies. One idea could be sending pictures to mom every 2-3 hours to soothe and manage her emotions in the first 24 hours.”

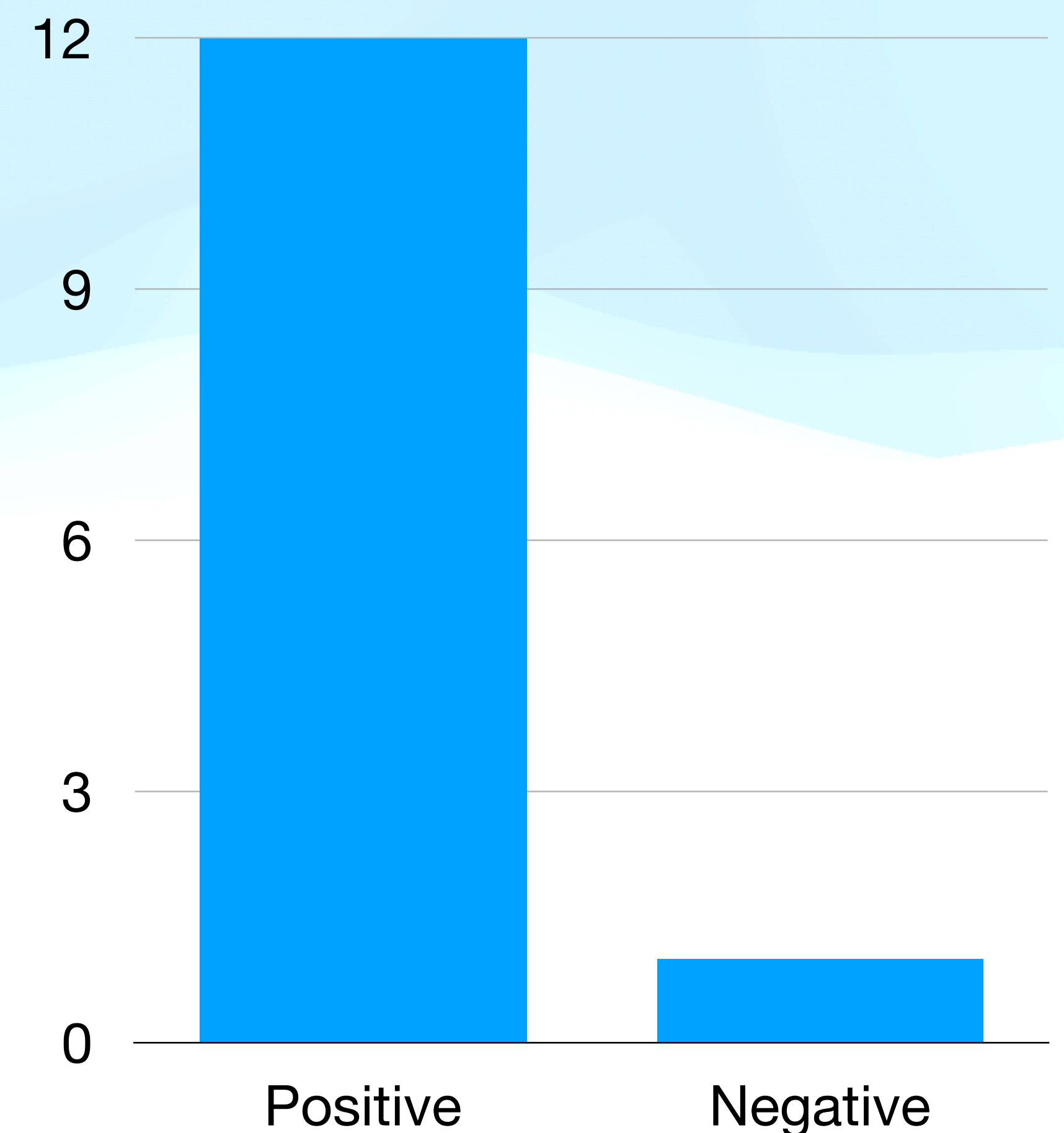
“How to express properly. I was doing it wrong the first few days till a lovely NICU lady helped me.”

Nursing Feedback

13 Surveys

Do you feel you have been appropriately trained and are comfortable supporting mothers with expressing?

- *“To some extent - I got brilliant training when I started this role but feel refresher training would be beneficial”*
- *“Yes had training when first started on unit. Recently had Unicef training. Rep from breastfeeding company provided training.”*
- *“Yes. Plenty of education around supporting mothers with breastfeeding. Also if there is something you struggle with then there’s often someone on shift that you can ask.”*
- *“I feel I have been appropriately trained in terms of mandatory training however there could be more support for new staff in terms of teaching eg how to use pumps/expressing colostrum etc”*
- *“I taught myself how to use the breast pump so I could then show mothers. Other than the Unicef day there hasn’t been training on expressing breastmilk since I started.”*



If not, why not? Do you think there needs to be more training in this area or what can we do to help with this?

- *“I feel training should be introduced as soon as new starters start on the unit.”*
- *“Put on workshops / extra training days.”*
- *“I think that an annual update would be a good idea - it could just take 10-15 minutes.”*
- *“Tuesday teaching subject!”*
- *“A busy workload can be a barrier in helping mums to express”*
- *“Yes more training regarding when to express / techniques how to use the pumps etc”*

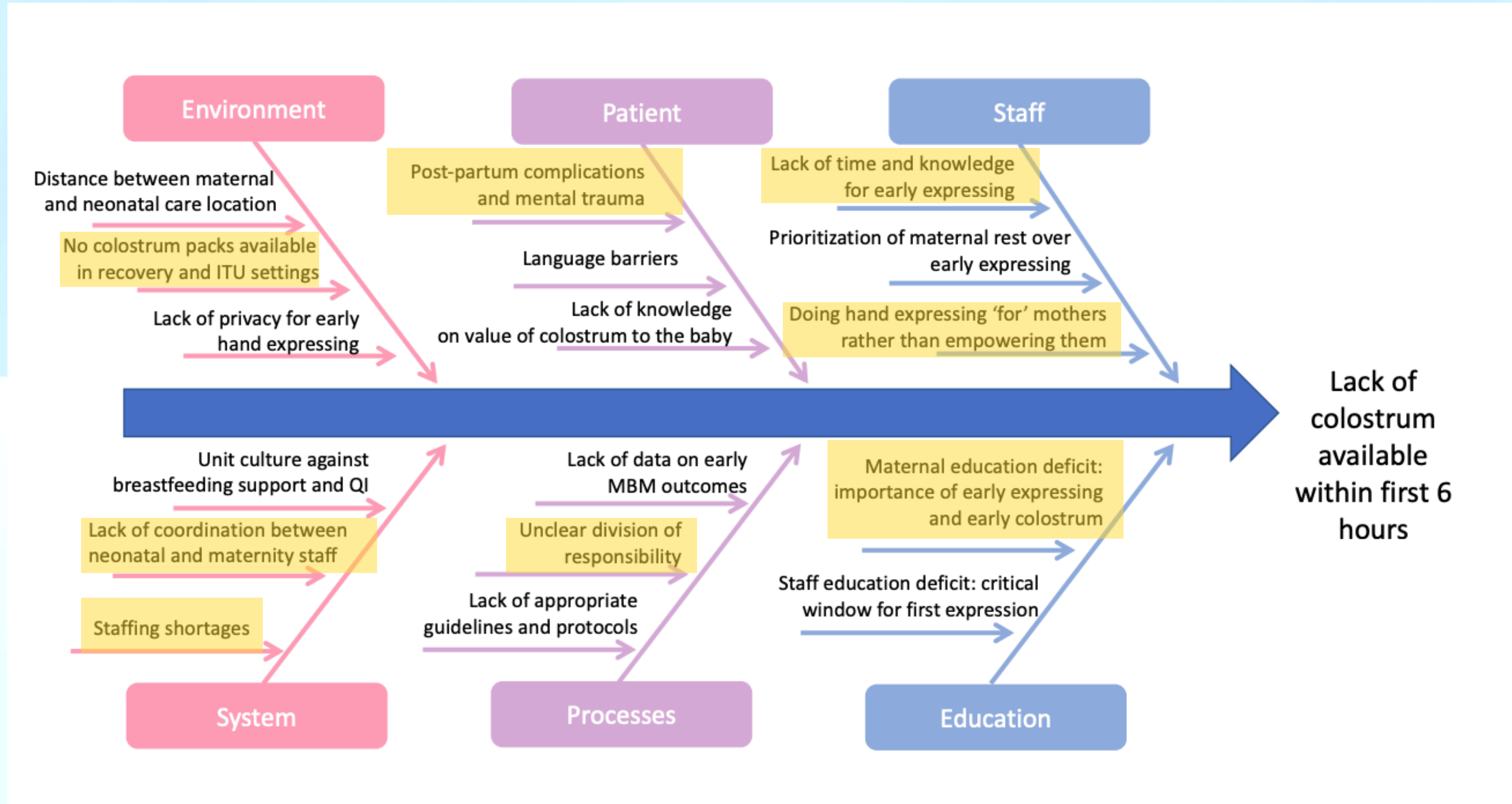
When discussing expressing breastmilk with mothers whilst on the unit, have they spoken about any difficulty or barriers with expressing? If so, what do these tend to be?

- *“Often if they have other young children at home, are overtired, pain with expressing, not knowing how to use equipment.”*
- *“Flange sizes, not given all important info ie making sure to express between 1-4am etc.”*
- *“We often don’t see mum for several hours post delivery, especially if c-section, therefore rely on midwifery team to initiate hand expression. Mums often say they are in pain/too tired.”*
- *“Tiredness. Not getting enough milk - stress re sick baby. Busy life ie other siblings. Night expressing - not having baby there. According to Mum - hand expressing difficult first 48 hours and collecting in syringe.”*
- *“Lack of knowledge - if in SCBU perhaps new staff (like myself) don’t have depth of knowledge to help as much as we would like”*
- *“Support when not on the unit. And also when expressing on the unit it is often disturbed if doing so by the bedside”*

In your experience what do you think we can do to help mothers with expressing and facilitating early breastmilk for premature babies?

- *“Discuss the subject in antenatal clinic! Discuss the benefits and give information on how to express breastmilk when meeting the parents for chat before preterm delivery if time/situation allows.”*
- *“Access to more pump machines. Support in early days. Partnership with maternity services.”*
- *“Miniboos. Looking at pictures of baby. Regular skin to skin. Being close to baby. Educating and supporting Mums.”*
- *“Make sure milk is brought round from the ward and not left in fridge. Earlier skin to skin wherever possible.”*
- *“Also we all could do with more time to spend with Mums/have someone designated to support Mum”*
- *“Work together with midwives in showing/helping Mum express straight after delivery”*
- *“After initial hand expressing mothers can use breast pumps I think it could be useful to have hands free “wearable” pumps and mothers could express whilst doing containment holding/feeds/cares in babies that aren’t clinically stable enough for skin to skin. I think mothers would feel less ‘attached’ to a machine if they can use a hands free pump for on the unit and might make expressing every 3 hours more manageable”*
- *“Talk about it as soon as possible! Liase with midwife if Mum on ward so mum gets support from both wards. Ask mum if she needs help - even if it is not first baby every experience is different”*

Barriers



Limitations

- A lot of the data depends on accuracy and correct utilisation of Badger
- Contemporaneous vs retrospective documentation (particularly for communication)
- Recall bias (for parental survey)
- Small numbers (especially for surveys)
- Unfortunately due to time constraints I wasn't able to continue my project and obtain the midwifery perspective

Key Learning Points

- Generally mums felt well supported with expressing both by neonatal and maternity staff
- It is a fairly significant challenge getting first MBM to babies
- The majority of mums stated the first conversation they remember having regarding expressing breastmilk was after birth
- The importance of a cohesive approach to expressing breastmilk between neonatal and maternity services
- Training, education and support

Improving MBM outcomes must be done in a way which instead helps parents to feel empowered, supports them to value the unique contribution of their milk and maximises their success, improving their connection to their baby and improving their mental health. Parent representation to this working group has emphasised how it is vital, during perinatal and neonatal care, to acknowledge **“the importance [of MBM] for empowering women rather than expressing being another source of trauma and distress”**.

Genevieve Howell, parent of a preterm baby.

From *“Optimising Early Maternal Breast Milk for Preterm Infants: A Quality Improvement Toolkit”* November 2020

References

“Optimising Early Maternal Breast Milk for Preterm Infants A Quality Improvement Toolkit November 2020” BAPM in collaboration with NNAP

“Guideline for Mouthcare for Sick and Preterm Infants” The Northern Neonatal Network

“Breast Feeding The Preterm Infant Extract From the Neonatal Induction Programme”
North West Neonatal Operational Delivery Network

“The Benefits of Breastmilk for Premature Babies” Periprem Bundle

Unicef UK Baby Friendly Initiative

“Enteral Feeding of Preterm Infants” NHGSGGC Paediatrics for Health Professionals