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To Increase the Rate of Pre-Term Infants (<1.8kg) on Mother's Own Milk

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Background

Breast milk is recommended as the first choice for preterm infant feeding as it offers these infants major short- and long-term benefits such as reduced incidence of necrotizing enterocolitis (NEC), late onset sepsis, better feeding tolerance and improved neurodevelopmental outcomes. When the infant's own mother's milk is insufficient, pasteurized donor human milk (PDHM) from a milk bank is the recommended alternative because of its immune benefits. However, Mother's Own Milk (MOM) is still preferred for preterm infants as preterm milk can meet the baby's nutritional requirements and support growth as compared to PDHM which is generally donated by mothers who have delivered at term.

With the availability of PDHM in our unit, a decline in the percentage of preterm infants receiving MOM was noticed. (Fig 1)

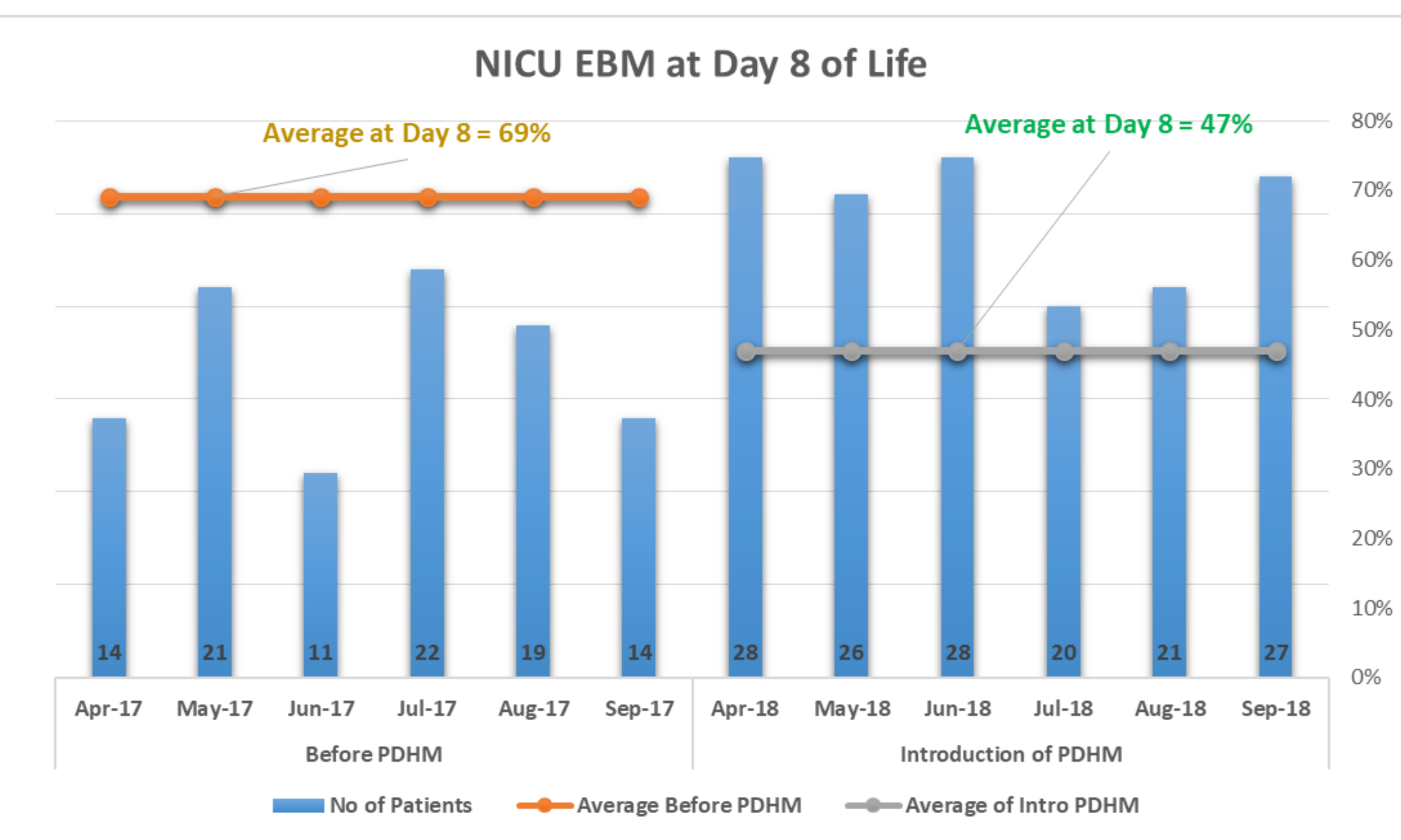


Fig 1: Average Percentage of Infants on MOM

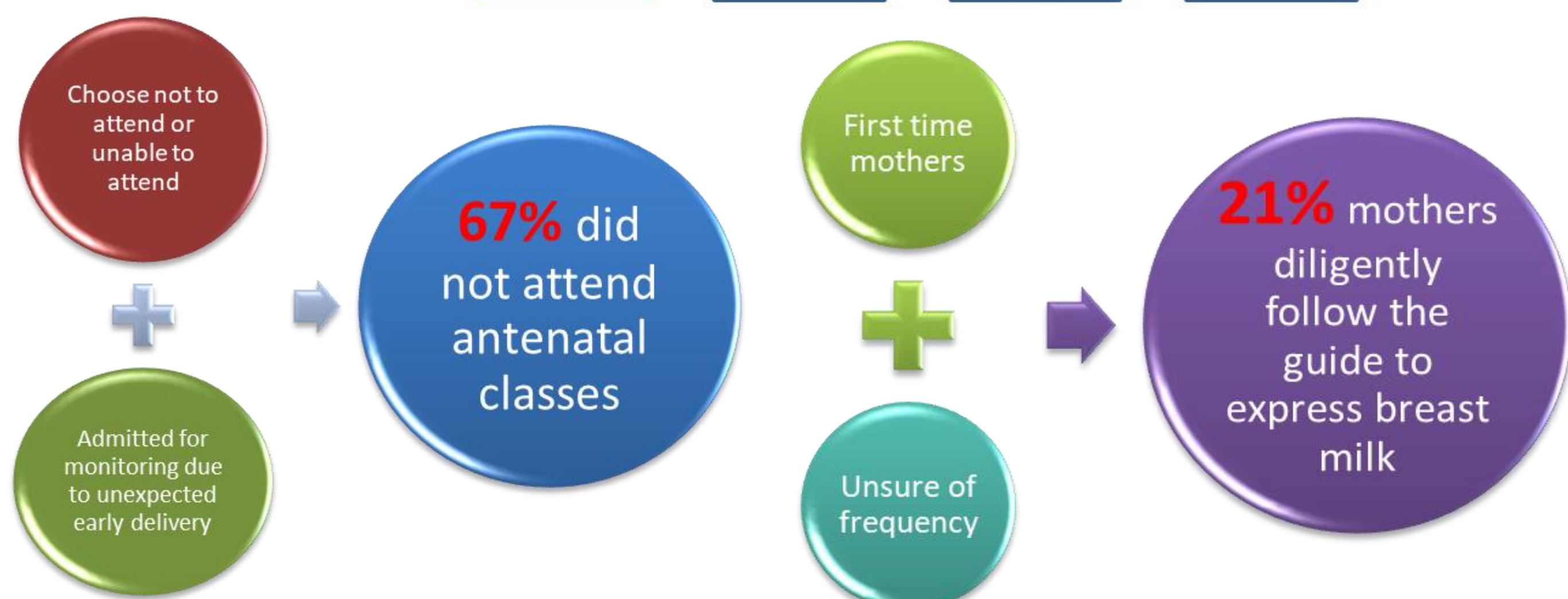
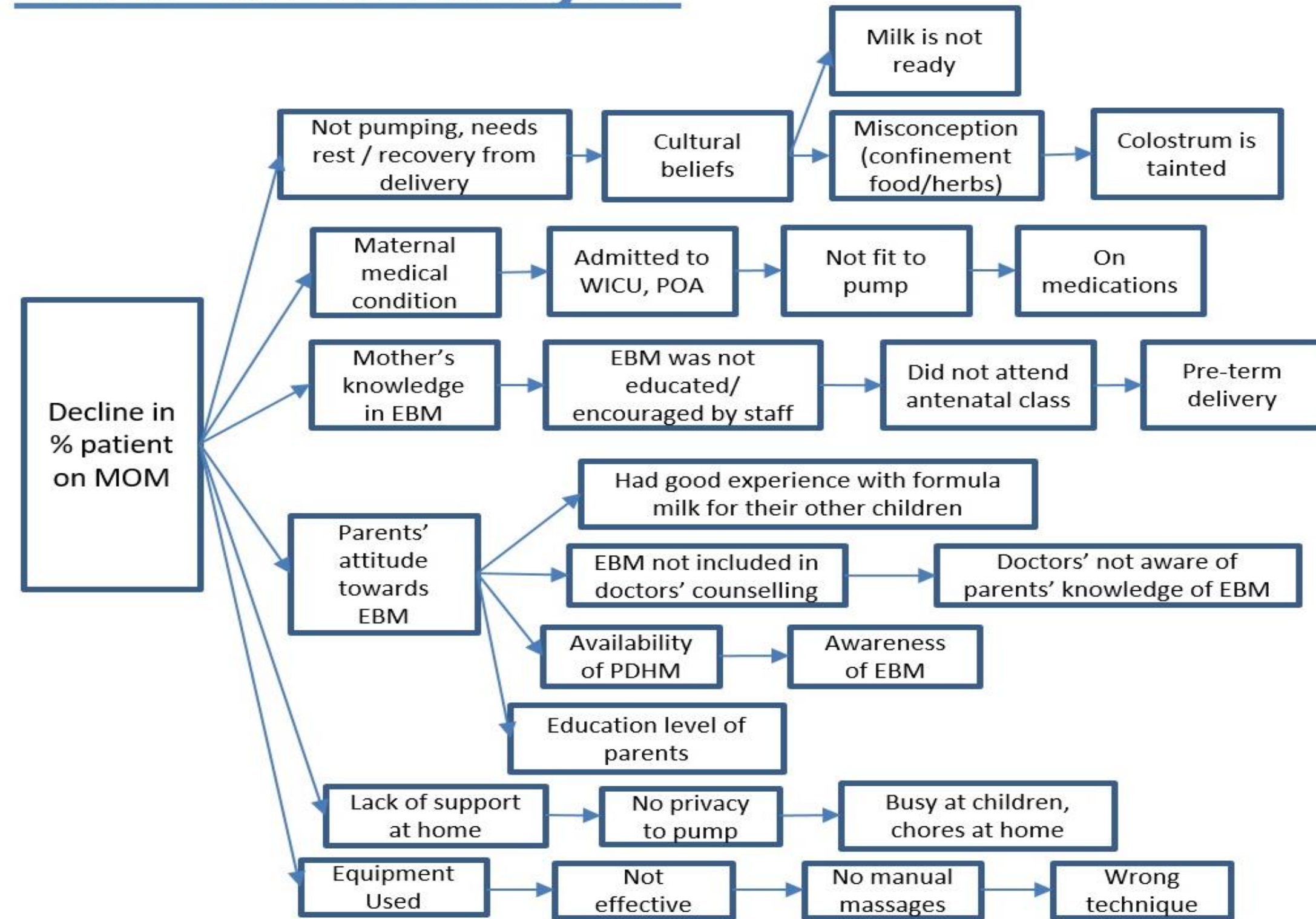
Aim

Improve the exclusive breast-feeding rate with MOM from 47% to 55% by Day 8 of postnatal life in neonates with birth weight < 1.8 Kg in 6 months.

Methodology

Root Cause Analysis (RCA) was conducted followed by a survey with mothers with premature infants to confirm the root causes identified. We found that:

Root Cause Analysis



The team then decided to target our solutions at mothers at early stages of their pregnancy, during their stay (pre and post delivery) as well as after their delivery.

Solutions & Results

Root Causes	Solutions	Results/Findings/Feedback
Did not attend antenatal class as mothers were admitted for close monitoring / unexpected pre-term delivery	Antenatal Education Antenatal education at bedside for mothers admitted for premature birth monitoring. Slides and flipcharts are used by Lactation Team to educate mothers on breast feeding, why breast milk is best for their newborns and what to expect should they deliver early.	Tried in November 2019. Targeted at mothers admitted for high-risk pre-term delivery at Ward 32. Positive feedback from participants, some shared that information is helpful. The team is in talks with the Obstetric Wards to train the nurses to conduct bedside education for patients admitted for monitoring/unexpected pre-term delivery.
There is no structured template to monitor / assess / communicate with mothers on: 1. Breast milk yield, 2. Breast assessment needs 3. Breast milk expressing education 4. Issues faced by mothers	Nurses Checklist Nurses developed a checklist as a standard communication tool to check on mothers' well-being / milk pumping efforts/ issues faced when expressing breast milk. Post-natal Booklet Encourage mothers to continuously record the amount of EBM at each pump and bring the booklet at each visit.	The checklist has since evolved from hardcopy checklist into an acronym in Sunrise Clinical Manager (SCM). Nurses use it to document their communication with mothers. Some tech savvy mothers prefer to use an external app for recording. Nevertheless, staff will continue to encourage mothers to ensure the use of the Post-natal booklet as the milk yield guide and other useful information is available in the booklet.
Cultural beliefs, misconceptions that are preventing mothers from expressing breast milk	Coffee Afternoon The team tapped into the support group where mothers gather to share their experiences caring for their children warded in NICU/SCN. A team member will join the group as last agenda to highlight the importance of MOM and how it benefits their children. Also, to reiterate that help is readily available to mothers who have difficulties with breast feeding.	More than 90% of mothers surveyed find the session very useful and are willing to "spread the word of how breast milk benefits preemies". Attendance so far: Sep – 4 sets of parents Oct – 2 mothers Nov – 3 mothers
Not pumping during the night / unsure of frequency of pumps and amount of breast milk required	A Quick Reference Guide for Mothers A small card that mothers can bring it with her as a reference guide on the amount of breast milk and the pumping frequency.	A quick reference guide, shaped of a baby romper has been issued to mothers. It was well received by staff and mothers.

After the various initiatives were put in place, the percentage of infants receiving exclusive MOM at day 8 and beyond improved from 47 % to 59%. (Fig 2)
Chi Square test shows p-value < 0.05.

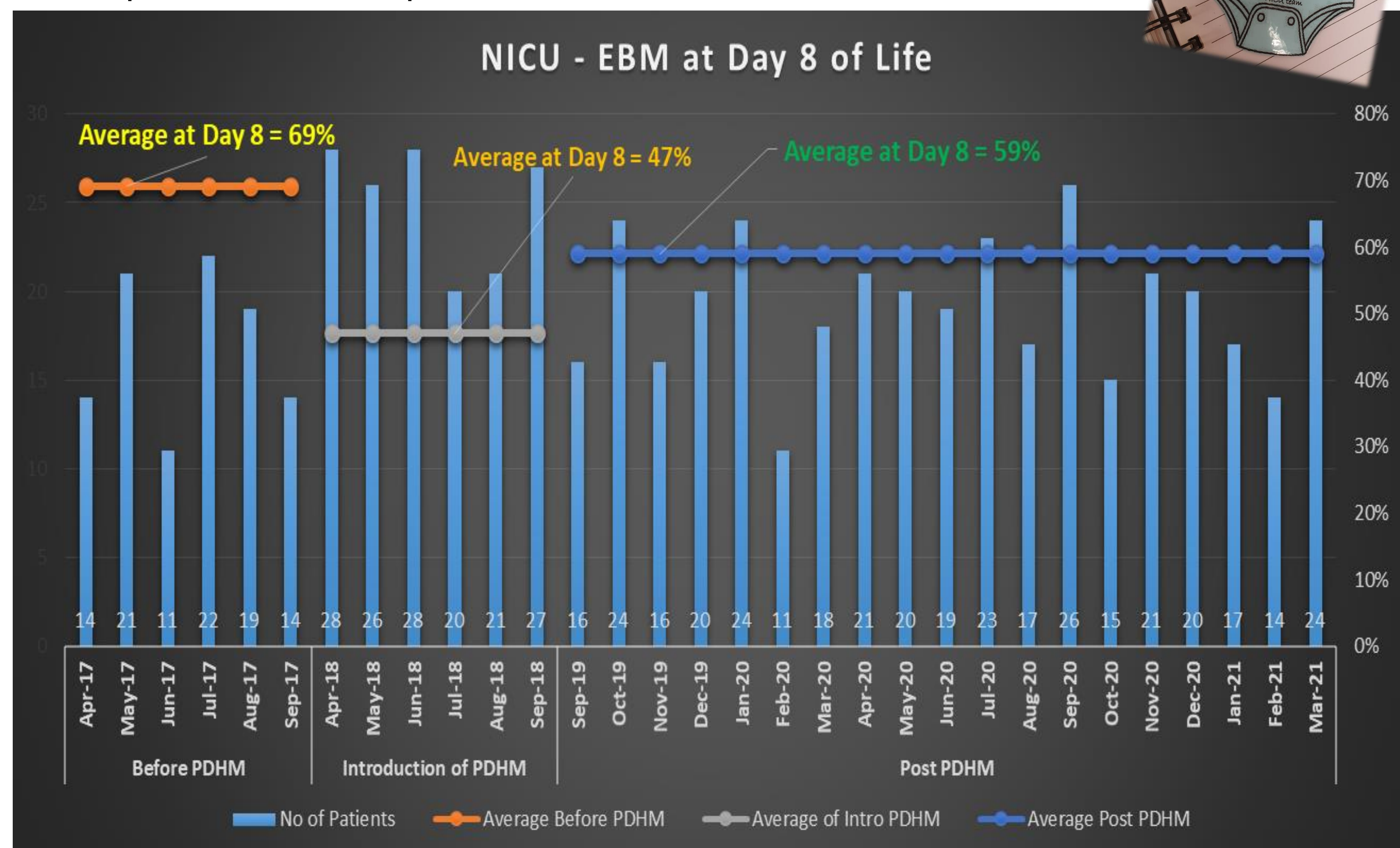


Fig 2 Average Percentage of patients on mothers' EBM increased after interventions

Conclusion

Educating mothers on the benefits of breast feeding, MOM in premature infants and standardizing communication with mothers with regards to breast milk production resulted in an improvement in the exclusive MOM feeding rates. The team is still looking for ways to increase the MOM feeding rates further.