Improvement in Breastfeeding Practices and Human Milk Use in the NICU

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Background

Human milk is nutritionally superior to infant formula and provides many well-documented benefits including decrease in adverse outcomes such as necrotizing enterocolitis (NEC), sepsis, and retinopathy of prematurity (Menon & Williams, 2013). Very low birth weight (VLBW; <1500gms) infants fed human milk have improved visual acuity and higher scores on tests of neurocognitive evaluations (American Academy of Pediatrics [AAP], 2012).

Problem Statement

In 2010:

- % of VLBW receiving mom’s own milk (MOM) at initiation of feeds was 80%.
- % of VLBW infants discharged home feeding human milk in our NICU was 35.8% compared to 53.6% in other NICUs in the Vermont Oxford Network (VON).

Aim Statement

The goal was to increase the percentage of infants receiving MOM at initiation of feeds and at discharge, and to determine if the systematic implementation of comprehensive lactation and breastfeeding support using the “10 Steps to Promoting and Protecting Breastfeeding for Vulnerable Infants” (Spatz, 2004) would result in the desired improvement.

Methods

- Driving force, NICU Breastfeeding Committee
- Interdisciplinary Committee (nursing, physician, NPs, dietician, lactation specialists, parent)
- Monthly meetings and evidence-based
- Used metrics to evaluate progress
- Supported/endorsed by NICU Best Practice Committee

10 Steps to Promote and Protect Breastfeeding for Vulnerable Infants

1. Informed decision
2. Establishment and maintenance of milk supply
3. Breast milk management
4. Feeding of breast milk
5. Skin-to-skin care
6. Non-nutritive sucking at the breast
7. Transition to breast
8. Measuring milk transfer
9. Preparation for discharge
10. Appropriate follow-up

* If steps 1, 2, & 3 are performed well, steps 4-10 will follow. (Spatz, 2004)

Results

Significant improvements in the use of mother’s own milk (MOM) at initiation of feedings and at hospital discharge. The odds of the very low birth weight (VLBW) infant receiving MOM at discharge in 2013 was 3.1 fold greater compared to 2010 (OR 3.01, 95% CI 1.75-5.17; p <0.001).

Discussion

The systematic implementation of the Spatz 10 steps for promoting and protecting breastfeeding for vulnerable infants resulted in significant improvement in the % of:

- Mothers expressing their milk within 6 hours of delivery
- Infants receiving MOM at initiation of feeds
- Mothers with a hospital-grade pump at discharge
- Parents’ perception of nurses’ support for mother’s efforts to breastfeed

The odds of the VLBW infant receiving MOM at the time of hospital discharge were not significantly different for 2010 vs. 2013. The PDM did not affect MOM at discharge. This quality improvement demonstrates the effectiveness of the Spatz methodology.