

**Abstract Title:**

Improvement in Exclusive Breastfeeding Rate and Reduction in Maternal-Baby Separation Associated with Use of Dextrose Gel in Newborns with Hypoglycemia Risk

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**Abstract Description:**

Background: Benefits of breastfeeding (BF) to both infant and mother are well known. In 2013, Harris et al introduced dextrose gel as an adjunctive and potentially more effective treatment than feeding alone in newborns with hypoglycemia.

Objective/Primary aim: Improve exclusive BF rates and reduce NICU transfers due to hypoglycemia for at risk newborns in our mother-baby unit (MBU) by 25% with the use of dextrose gel.

Design: Data was obtained from medical record review of all MBU newborns on our hypoglycemia guideline. Using the PDSA model, we measured rates of exclusive breastfeeding and NICU transfers due to hypoglycemia before and after dextrose gel introduction.

Setting: HUMC Patients: Full term neonates ( $\geq 37$  weeks) eligible for hypoglycemia guideline, admitted to MBU. Interventions: July to September, 2018: Housestaff and nursing were educated on the use of dextrose gel via email and didactic/hands-on sessions. September 5, 2018: Existing hypoglycemia guideline was modified, decreasing glucose value requiring treatment from 50 to 45mg/dl and adding dextrose gel therapy. September 13, 2018: Dextrose gel was stocked in medication dispensing system.

Measurements: Patient information included: indication for initiating hypoglycemia guideline, point of care glucose values, and treatment for hypoglycemia (i.e. breastmilk feeding, formula, dextrose gel, NICU transfer) and other reasons for formula use. Results: Baseline data from March 1, 2018 to June 30, 2018 (n=76) showed an exclusive BF rate of 21%(16), a rate of formula use for hypoglycemia of 28%(21), and formula use for reasons other than hypoglycemia

## CAN 2019

of 51%(39). Post intervention data collected September 15, 2018 to January 14, 2019 (n=77) revealed that the rate of exclusive BF improved to 49%(38), formula use for hypoglycemia decreased to 13%(10) and formula use for reasons other than hypoglycemia was 38%(29). To control for the effects of simultaneous changes in practice, post intervention patients were re-analyzed for potential risk of formula exposure based on glucose levels used during baseline period. Four patients were identified potentially adversely affecting the exclusive BF rate by 11%(4/38). Of the 38 exclusively BF infants, 6 received dextrose gel which contributed 16%(6/38) to the overall improvement of exclusive BF. Transfers to NICU decreased from 16% (12) to 8%(6) post interventions.

Limitations include: Small sample size and different glucose thresholds used pre and post interventions.

Conclusions: Dextrose gel introduction improved exclusive breastfeeding rates at our hospital. PDSA Cycle#2 will focus on sustaining these rates and further evaluating its effect on transfers to NICU.