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Policy and Feeding Preference on Glucose Stabilization in Hypoglycemic Newborns – A Literature Review

Haley Chaump SN and Claudia Coke-Pierre SN



What We Learned

This project was conducted for a research class. In this class we learned to use PICOT questions to search for and access scientific journals. We were also taught to critically read and evaluate Nursing research studies.

Background

Hypoglycemia or low blood sugar may lead to dire neurological consequences for newborns. There is a paucity of evidence regarding when to test for hypoglycemia and what are the best blood glucose ranges to prevent symptoms in each infant.

Purpose & Aims

- Determine how hypoglycemia outcomes are affected when:
 - Breast milk or formula is fed to newborns.
 - Hospital hypoglycemia policies support breastfeeding.

Sample

- Four research articles:
 - Two articles evaluating hospital guideline compliance and breast feeding support.
 - Two articles evaluating feeding type and timing on blood sugar in newborns of healthy, diabetic, and pre-diabetic mothers.

Methods

- Database search - CINAHL, Google Scholar, and Pub Med
- Research articles only, published 2008-2014
- Nurse and medical personnel authored
- Search terms – breast feeding, hypoglycemia, blood glucose, diabetes

Results



- Early feedings were found to be an effective strategy for raising blood glucose levels.
- 86% of their hypoglycemic infants experienced corrected glucose levels by early feedings (< 2 hours) of breast milk or formula.
- Infants breastfed within 30 minutes of delivery had a higher average blood glucose level than their non-fed counterparts.
- Found conflicting evidence on which feeding method was better to stabilize blood glucose levels.

Discussion

Findings of these four articles suggest that::

- Breast feeding and formula feeding are equally effective in raising blood glucose levels in newborns.
- Breast feeding is better at stabilizing blood glucose levels and preventing hypoglycemia recurrence
- Hospital policies for hypoglycemia management are not supportive enough of breast feeding.

Next Steps

- Expand the study to include more research articles.
- Focus research on US hospitals
- Use articles with similar hypoglycemia parameter measurements.

Limitations

- Difficult to locate nurse-authored papers
- Difficult to determine acceptable research articles
- Majority of articles defined hypoglycemia differently, and timing of glucose screens varied

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