

Standardized Management of Infant Reflux Symptoms in the NICU

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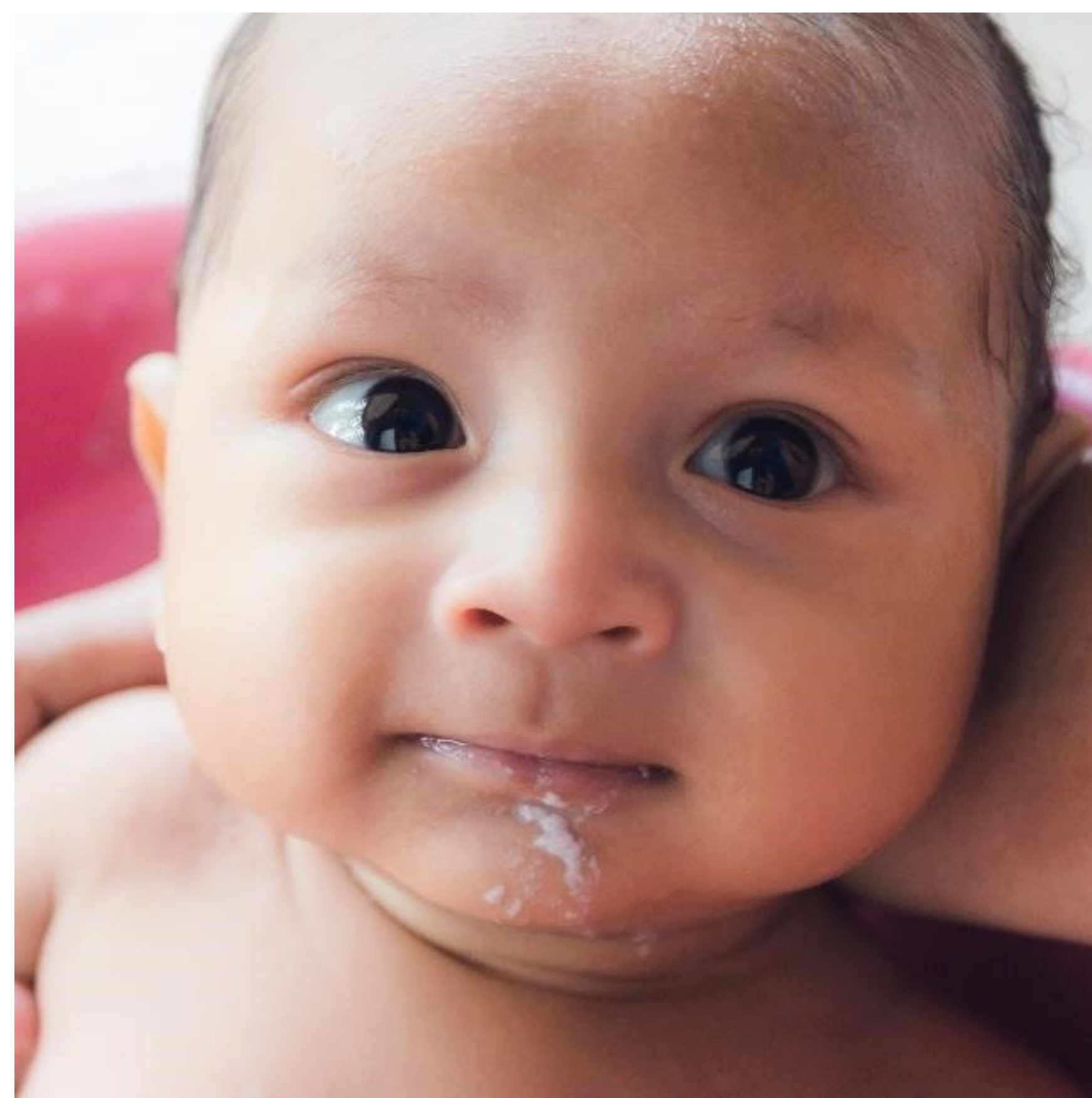
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Background and Needs Assessment

- Gastroesophageal reflux is very common among infants admitted to the NICU.
- It is defined as recurrent emesis or reflux and poor weight gain, choking, gagging, coughing, significant irritability, frequent crying, discomfort, arching, feeding aversion, or forceful vomiting of gastric contents.
- Many NICU's do not have standardized management of reflux symptoms which may contribute to an infant's delayed discharge, decreased family satisfaction, and an increased financial burden for both the family and the hospital.

PICOT

In full term infants in the NICU (P), does a thickened formula (I) compared to a non-thickened formula (C) reduce reflux symptoms (O) during their acute care stay (T).



Acid reflux (ger & gerd) in infants. (n.d.). National Institute of Diabetes and Digestive and Kidney Diseases. <https://www.niddk.nih.gov/health-information/digestive-diseases/acid-reflux-ger-gerd-infants>

Literature Search

- Databases Used:** PubMed, CINAHL, and COCHRANE
- Key Terms:** Reflux, premature, thickened formula, GERD, infant, NICU, neonate
- Inclusion Criteria:** Studies that involved the use of thickened feeds for the treatment of reflux in infants < 6 months of age between 2017-2022
- Exclusion Criteria:** Breast-fed infants
- Articles:** 24 initial articles; 15 articles excluded; 9 final articles
- Levels of Evidence:** Level I (1), Level II (4), Level 3 (1), Level 4 (1), Level 5 (2)
- Summary of Findings:** Research suggests that use of anti-regurgitation formula is well-tolerated as an intervention to manage full-term infant reflux.

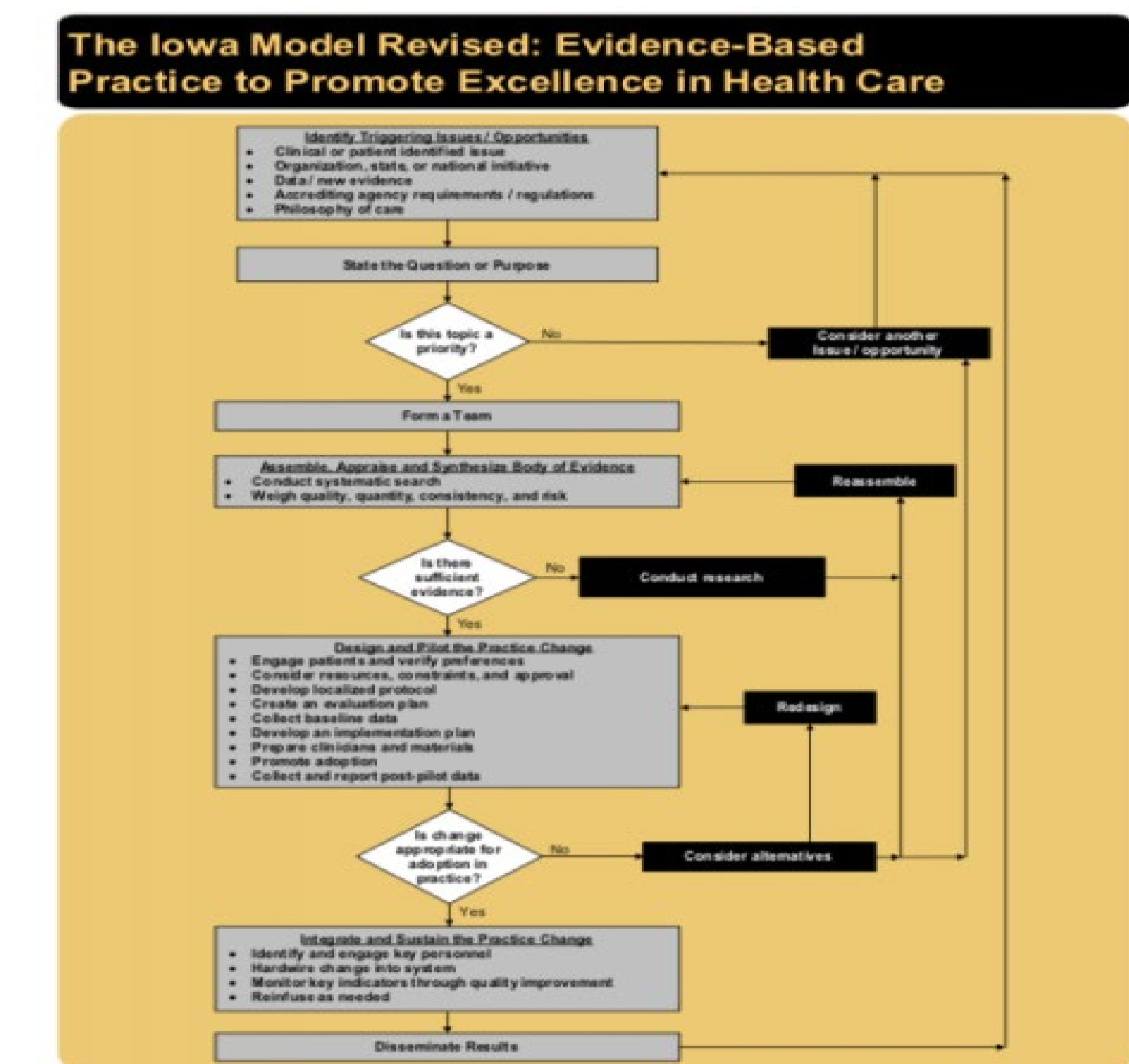
Synthesis of Findings & EBP Guidelines

- The Clinical Report from the American Academy of Pediatrics (AAP) Committee on Fetus and Newborn (COFN) report suggests that individual neonatal units should develop individual protocols for the management of infants with reflux (Eichenwald et al., 2018).
- Anti-reflux formula improved regurgitation and most GI symptoms within one week of intervention. Post-hoc analysis shows greater improvement of GI burden in infants with more severe symptoms (Bellaiche et al., 2021).
- Infants with reflux that used feed thickeners had nearly two fewer reflux episodes per day. They were also 2.5 times more likely to have no reflux symptoms (Kwok et al., 2017).
- Implementing standardized clinical practice guidelines diagnosis and managing GERD in preterm neonates admitted to a busy level IV NICU resulted in an overall significant decrease of inappropriate use of GERD medications in neonates (Shakeel et al., 2021).
- Nutritional management is recommended as a first-line approach in infants with reflux (Gonzalez Ayerbe et al., 2019).

Recommendation to Change

- Obtain organization and department approval based on identified priorities.
- Develop a team comprised of Neonatologists, Neonatal Nurse Practitioners, staff Registered Nurses, unit managers, Registered Dietitians, speech and occupational therapists.
- Establish the required eligibility criteria: > 36 weeks gestational age, symptoms of reflux as per GERD Symptom Questionnaire (GSQ) and/or clinical determination.
- Designate a focus group of neonatologists and registered dietitians to establish a standardized feeding protocol of varying caloric values.
- Provide awareness and educational outreach among involved units via scheduled group/individualized instruction, educational rounding, written and electronic dissemination, and verbal communication during briefings.
- Display quick-reference guides among formula preparation areas.

Theoretical Model/Picture



Iowa Model Collaborative. (2017). Iowa model of evidence-based practice: Revisions and validation. *Worldviews on Evidence-Based Nursing*, 14(3), 175-182. doi:10.1111/wvn.12223

Evaluation Plan

- Complete the GERD Symptom Questionnaire (GSQ-I) by the infant's assigned nurse q shift
- Report the number of regurgitant episodes
- Report the amount (ml) of regurgitation
- Obtain clinical and family input regarding symptoms
- Assess q 5 days (or PRN) with involved members

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