Caring for Newborns with Transitional Hypoglycemia: Best Practices for Education Healthcare Providers and Families

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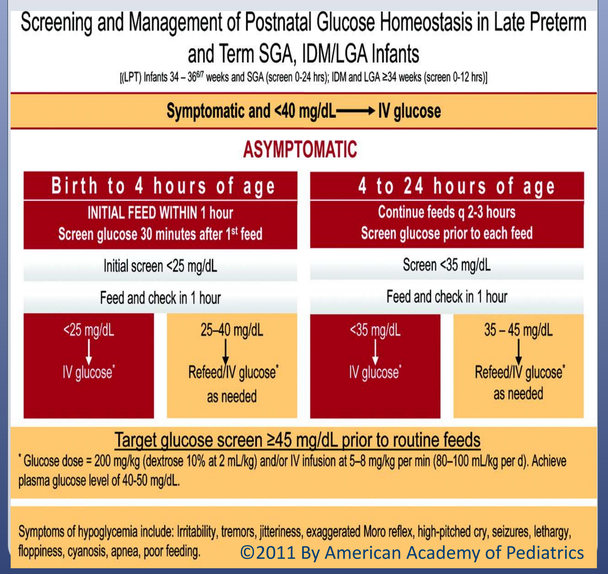
BACKGROUND & SIGNIFICANCE

- Family dissatisfaction with transfer of asymptomatic infant to higher level care (Otto, 2017)
- Separation of mother-infant dyad (Otto, 2017)
- Lack of professional consensus on definition of newborn hypoglycemia (NH) (Canadian Paediatric Society, Position Statement 2016)
- NH is a common occurrence, estimated to affect 15-30% of newborns (LeBlanc, et al 2018)
- Approximately 10% of newborns with NH require intensive management (LeBlanc, et al 2018)
- Increased costs for families (LeBlanc, et al 2018)
- Little to no research regarding effective education methods

AT RISK POPULATION

- Late preterm infants 34 0/7 – 36 6/7 weeks gestation (Adamkin, 2011)
- Small for gestational age (SGA) infant (Adamkin, 2011)
- Large for gestational age (LGA) infant (Adamkin, 2011)
- Infant of diabetic mother (IDM) (Adamkin, 2011)



INTERNATIONAL DATA MATERNAL HYPERGLYCEMIA

- Estimated global prevalence: 170/1000 live births in 2013 (Mitanchez, et al 2015)
- 91.6% occur in low – middle income countries (Mitanchez, et al 2015)
- S.E. Asia – highest prevalence 25% of live births (Guariguata, et al 2013)
- Middle East & North Africa 22% (Mitanchez, et al 2015)
- North American and Caribbean region – 10.4% (Guariguata, et al 2013)

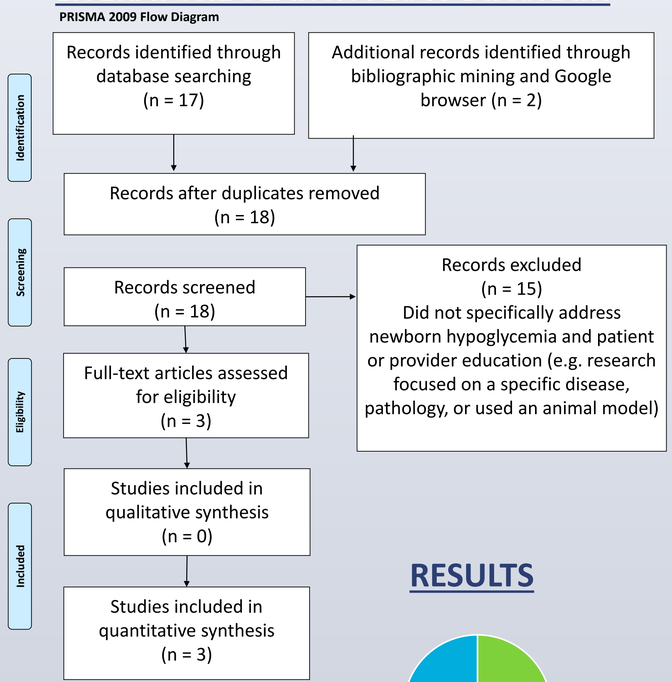
RESEARCH QUESTION

"How should healthcare providers and families of newborns with transitional hypoglycemia be educated to improve patient and provider communication during the care of newborns with hypoglycemia?"

METHODOLOGY

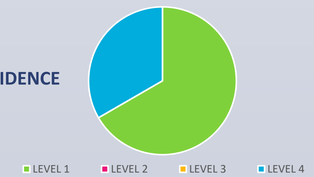
- An integrative research review used modified methodology was utilized (Whittemore & Knafle, 2006; Brown, 2018)
- Systematic search of the following databases: Cumulative Index for Nursing and Allied Health Literature, Medline Complete and Pubmed databases from 2000 – 2017
- Search terms used: "newborn hypoglycemia" and "patient or provider education"
- Articles appraised utilizing the PRISMA 2009 checklist within the EBR Tool (Long & Gannaway, 2015)
- 17 articles initially identified, 2 articles were identified through bibliographic mining and the use of Google browser, 1 duplicate, and 15 did not meet inclusion criteria

LITERATURE SEARCH FLOW DIAGRAM



RESULTS

LEVEL OF EVIDENCE



LITERATURE SYNTHESIS

- A multidisciplinary approach is effective to promote positive neonatal outcomes (Rahmani and Afandi, 2015).
- No consensus of specific glucose value concentration to distinguish NH (Adamkin: American Academy of Pediatrics (AAP) 2011, Canadian Paediatric Society 2016).
- Early initiation of feedings for treatment of NH (Adamkin: AAP 2011, Canadian Paediatric Society 2016).
- Informed explanations alleviate parental fears of NH intervention and treatment (Canadian Paediatric Society 2016, Rahamir and Afandi, 2015).

BEST PRACTICES FOR EDUCATING HEALTHCARE PROVIDERS AND FAMILIES

- World Health Organization (WHO) – 2016 Recommendations for a Positive Pregnancy Experience
- American Diabetes Association (ADA) – 2018 Position Statement 13: Management of Diabetes in Pregnancy
- Academy of Breastfeeding Medicine (ABM) – 2014 Clinical Protocol #1: Guidelines for Blood Glucose Monitoring and Treatment of Hypoglycemia in Term and Late-Preterm Neonates

CONCLUSION

Existing evidence-based findings informing the education of health care providers and families of newborns with hypoglycemia should be incorporated into healthcare policy and protocol. Multidisciplinary use of protocols and psychologically supportive communication and patient education handouts may help enhance patient and family-centered care. Further research which includes the patient-family perspective could help to guide the development of patient and family-centered educational materials.

REFERENCES

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Available upon request