Development and Implementation of a Standardized Newborn Bilirubin Protocol for Primary Care Clinics

Julie E. Hoegger, BSN, RN, PNP – DNP Student
Pediatric Center P.C., Cedar Rapids, IA

INTRODUCTION

- Two thirds of newborns appear clinically jaundiced during their first weeks of life. Despite most infants experiencing transient, benign physiologic jaundice, some infants are and will become critically ill. ¹
- The post delivery stay is shortened causing a substantial increase in readmission of newborns to the hospital with hyperbilirubinemia. ²,⁶
- Within the first week of life, 80% of newborns will show signs of clinical jaundice, 60% will have some degree of hyperbilirubinemia, and 37% will require treatment(s) to prevent complications such as encephalopathy. ¹⁻⁷,⁸
- The American Academy of Pediatrics (AAP) recommends follow-up and/or management of hyperbilirubinemia. ⁸

PURPOSE

Develop and implement a standardized newborn bilirubin protocol for primary care clinics.

- Create a newborn hyperbilirubinemia algorithm and protocol.
- Develop standing orders to streamline treatment.
- Increase nursing knowledge through educational in-services.
- Bridge the gap between hospital discharge and continuing care with primary care providers.

METHODS

- IRB approval was obtained.
- Develop an algorithm based on risk categories of bilirubin fractions graphed on the AAP nomogram.
- Develop a hyperbilirubinemia protocol based on AAP clinical practice guidelines.
- Obtain provider consensus on bilirubin protocol for infants 35+ weeks gestation.
- Develop standing orders, documentation tools (bilirubin flow sheets, follow-up form), and educational materials (for nurses, parents).
- Conduct an educational in-service for nursing staff.
- Measure nurses’ knowledge of newborn hyperbilirubinemia pre- and post-in-service with a questionnaire.

RESULTS

- The in-service resulted in a 43% improvement in pediatric nursing knowledge of newborn hyperbilirubinemia.
- Nurses’ confidence, understanding and consistency in documentation and efficiency and quality of treatment of newborns with clinical onset of hyperbilirubinemia was improved.
- Providers were actively involved in implementing the standardized bilirubin protocol within the primary care clinic following newborn discharge.

EVALUATION

Nursing educational in-service outcomes:
- Pre In-Service Score: 16.9/32
- Post In-Service Score: 30.5/32
- Improvement: +13.6

• The standardized bilirubin protocol helps to ensure that newborns with hyperbilirubinemia receive appropriate follow-up care and parents receive appropriate education.
• With the new algorithm in place, nurses can quickly triage patients and help providers to streamline the management of newborn hyperbilirubinemia.
• The new protocol could potentially be used in other primary care clinics.

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REFERENCES