Erythropoiesis Stimulating Agents: Bridging the Gap of Their Use in Premature Infants

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PROJECT METHODOLOGY

Preterm infants are born at a time when the developing brain is vulnerable to disruption and injury. Major neurological deficits and cognitive disabilities are seen in as much as 50% of preterm and extremely preterm infants (2). RBC transfusions are often inevitable in these infants as well, due to anemia, blood loss, or declining lab values (5). The need for consistent ESA administration in preterm infants to reduce these outcomes was recognized. Addressing this gap in knowledge and care is vital to the successful outcomes of these children.

Closing this gap will begin through the dissemination of evidence-based information and literature to both neonatal and primary care practitioners who care for these children.

Educational tools have been developed to deliver pertinent information to guide these practitioners towards bridging the gap of inconsistent ESA use, as well as working together and collaborating as a team. Evidence-based research and screening tools were retrieved from reliable websites.

PICO QUESTION

Are practitioners who care for preterm infants that receive education on the benefits of ESA administration in preterm infants, compared to those who do not receive education, more likely to use ESA’s in preterm infants admitted to the NICU; and can this same education help primary care providers of children of these children, to screen for longitudinal outcomes as well as disseminate knowledge that helps bridge the gap in inconsistent ESA use.

LITERATURE REVIEW

A literature review was conducted, which examined how ESA use in preterm infants can potentially reduce neurodevelopmental deficits and reduces unneeded RBC transfusions in this population.

Several experimental studies have supported ESA’s potential to improve neurodevelopmental outcomes in preterm infants.

Preterm infants treated with ESA’s have shown improved behavioral symptoms, higher IQ scores and cognitive function (3).

ESA’s promote angiogenesis and neurogenesis, which are essential for repairing damage from brain injury (1).

ESA’s have shown to decrease anemia and the number of RBC transfusions in preterm infants (5).

Plan and Development

Implementation includes presenting education through deliverables, to neonatal practitioners, primary care practitioners, NP students, and MSN faculty.

- PowerPoint presentation on long and short-term benefits, as well as the low risk of ESA use in preterm infants.
- Brochure containing information from the power point will be handed out to participants to share at their place of practice.
- A screening tool will be shared with those practitioners who will care for and assess preterm infants after they leave the NICU; this will assist in evaluating their cognitive and physical milestones
- Information on gaining full access to milestone screening with ASQ-3 will be delivered.
- Discussion on collaborating as a team and sharing findings to assist in promoting consistent ESA use.

Evaluation

A survey will be distributed to all neonatal and primary care practitioners, as well as any other participants.

- The survey will given out after project presentation, requesting thoughts or suggestions on material or delivery of information
- It will include multiple choice questions, and contain space at the end where open ended comments can be placed
- It will evaluate the possibility of the practitioner adopting and implementing findings from the presented research
- Suggestions and comments can be used to make beneficial changes to the process of dissemination of this information.

CONCLUSIONS

The research utilized in this project instills hope for improved outcomes in premature infants by disseminating findings of ESA’s decreasing long-term neurological deficits and hematologic instability while in the NICU. By increasing the understanding and knowledge on this subject among neonatal and primary care practitioners, consistent use of ESA’s in NICU’s will be promoted. Primary care practitioners will be able to accurately screen and assess patients who were born preterm and document findings overtime, as well as compare those who received ESA’s with those who did not. They will collaborate and share their findings with neonatal practitioners, working as a team to bridge this gap in care.

There are a few possible inhibiting factors to the implementation of research findings, one of which is the ability of practitioners being unwilling to adopt new care practices, or feeling they are too busy to invest time into changing protocols. Practitioners being unable to keep current on updated research on ESA use may also pose as a limitation to successful outcomes.

REFERENCES