

Promotion of treatment of antenatal iron-deficiency anemia to decrease postpartum blood transfusion risk

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INTRODUCTION

Topic

- Left untreated, antenatal iron-deficiency anemia can lead to the need for blood transfusion in the postpartum period.
- Clinicians will utilize a treatment algorithm during the antenatal period.

Problem

- Blood transfusion, though lifesaving in some instances, is associated with risk. These risks include allergic or anaphylactic reaction, alloimmunization, and exposure to infection (Shehata et al., 2017).
- Each patient that receives a unit of blood triggers a Performance Improvement (PI) review. Many of the cases reviewed are deemed to be clinically unnecessary.

Team Members

- Maternal Fetal Medicine physician & Fellow- clinical leads
- APN – technical expertise
- Project Sponsor – Vice President (VP) of Women’s Services
- PI RN - admin support
- Perinatal RN – clinical support

Executive sponsor

- VP of Women’s Services

Aim

To decrease the number of clinically inappropriate blood transfusions by 50% from 5-6 transfusions per month to less than 2-3 by February 2023.

METHODS

- Develop educational intervention/clinical algorithm alongside physician by 11/2022
- Review cases that go to the PI committee for clinical appropriateness of blood product administration on a monthly basis
- Implement educational intervention on unit by 10/2022
- Measure change in number of blood transfusions ordered by 03/2023
- Analysis of number of clinically unnecessary blood transfusions.
- The algorithm was approved by the Maternal-Fetal Medicine and Obstetrics and Gynecology departments and accepted for clinical use in October 2022. Pre-implementation data was analyzed for a 3-month period (July-September 2022). Post-implementation data was collected for the months of October-December 2022 and January 2023.

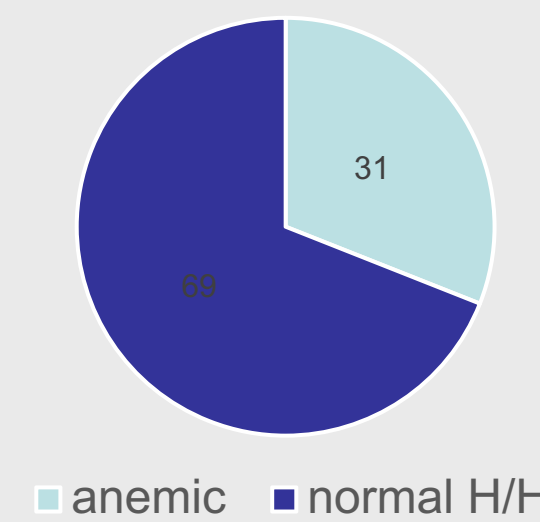
RESULTS

- More patients were identified as being iron deficient after implementation of the protocol: 31% vs. 51%.
- Analysis of ferritin level for diagnosis of iron deficiency anemia increased 325%!
- No change in blood transfusion rates was seen after implementation of the protocol.

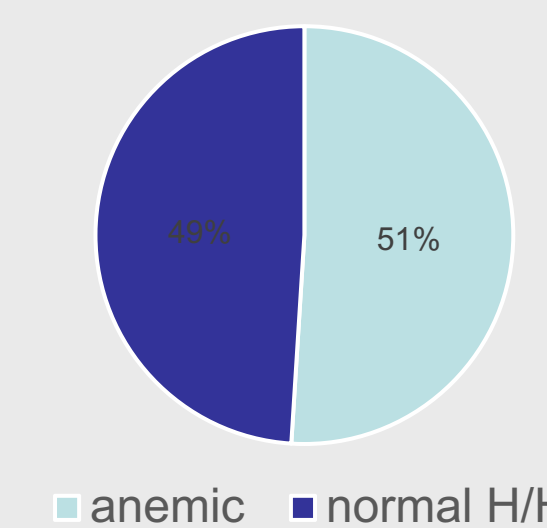
IMPLICATIONS FOR PRACTICE

- The clinical algorithm did identify those patients who had iron deficiency anemia and provided guidelines for treatment.
- Although blood transfusions carry risks, patients who are underdiagnosed and under treated for iron deficiency-anemia are at risk for other adverse events in pregnancy.
- Further work needs to be done to ensure that all clinicians are following the guidelines.

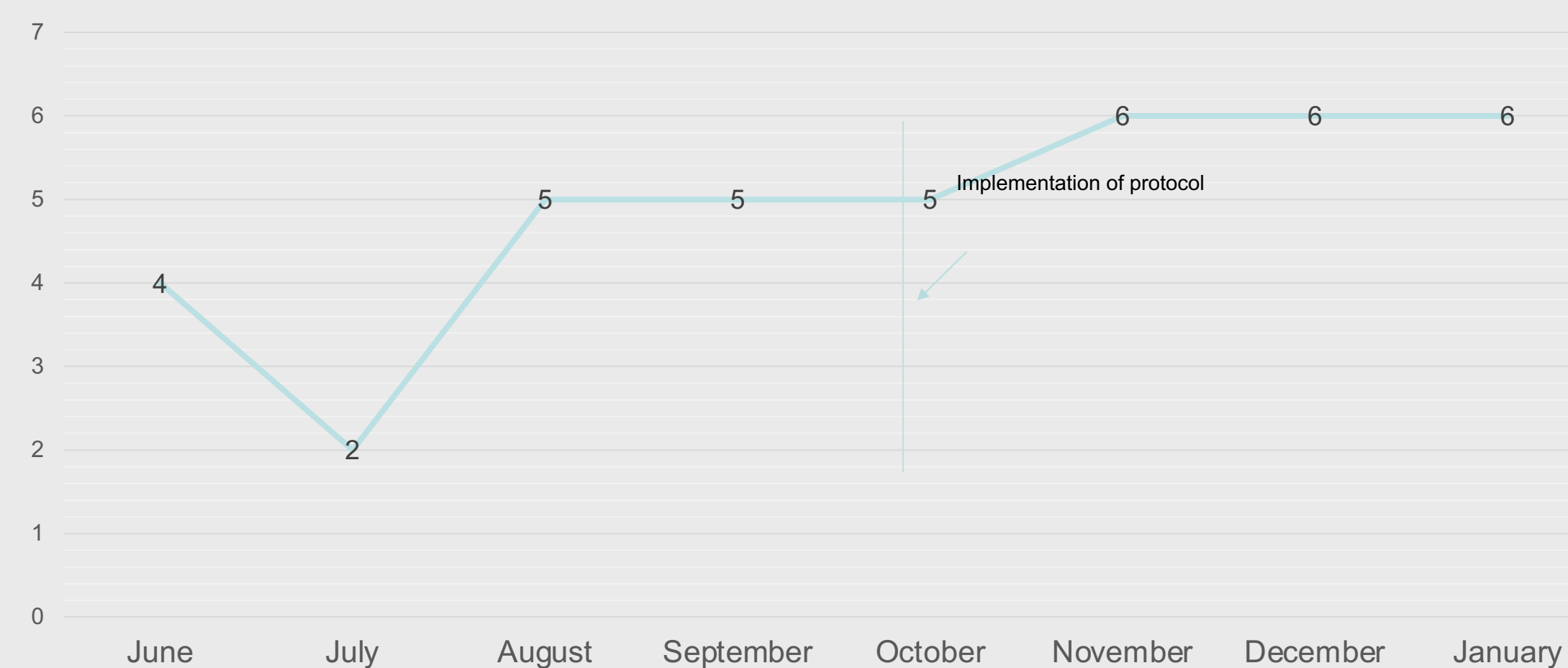
High Risk OB clinic Patients identified as being iron deficient between June-September 2022, N=78



High Risk OB patients identified as being iron deficient after implementation of protocol (OCT 22-JAN 23), N=64



blood transfusions pre- and post-implementation of protocol



REFERENCES

