Development and Evaluation of a Blood Transfusion Reference Guide in Medical-Surgical, Oncology unit

A QUALITY IMPROVEMENT PROJECT

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BACKGROUND

Current Challenges and Best Practices

- Approximately 18,308 preventable transfusion reactions were reported among 8.34 million blood transfusions during 2013-2018, highlighting the need for improved safety measures.
- The foremost practice to prevent serious transfusion complications is ensuring the correct blood product is administered to the correct patient.
- Early recognition of adverse events, facilitated by continuous and frequent monitoring of the patient's condition during the procedure, can significantly impact patient outcomes.
- Effective documentation enhances real-time patient monitoring, enabling better assessment of patient conditions and prompt response to adverse events.
- Poor documentation of patient conditions and vital signs in care settings has been shown to negatively impact patient outcomes.

Recommendations for Improvement

- Adherence to safe transfusion practices, as recommended by the National Healthcare Safety Network (NHSN) and the World Health Organization (WHO), is crucial for improving patient safety.
- Addressing factors associated with unsafe transfusion practices, including nurses' knowledge gaps, negative attitudes, and inappropriate practice patterns, is essential for enhancing overall transfusion safety.
- Implementing continuous education programs and standardized protocols can help improve nurses' competency in blood transfusion procedures, ultimately leading to better patient care and outcomes.

PROBLEM

Challenges in Ensuring Blood Transfusion Safety

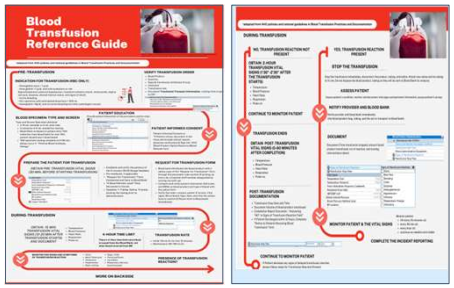
- Blood transfusion processes are complex and variable across patient care areas, contributing to transfusion errors (Bolton-Maggs & Watt, 2019).
- Unsafe transfusion practices persist due to:
  1. Inadequate adherence to organizational policies and national standards
  2. Incomplete implementation of essential pre-, during-, and post-transfusion activities
  3. Insufficient documentation throughout the transfusion process
- These lapses in safe practices can lead to:
  1. Increased risk of transfusion-related errors
  2. Potential harm to patient safety
  3. Poor patient outcomes

Identified Safety Gaps in Transfusion Practice:

- Documentation audit reports reveal incomplete transfusion documentation
- This indicates potentially unsafe transfusion practices despite existing organizational policies
- Highlights a gap between policy and actual practice in clinical settings
- Lack of resources available for staff nurses

OBJECTIVE

To evaluate the impact of implementing a reference guide for standardized blood transfusion on transfusion practices and documentation in a medical-surgical/oncology unit. The goal was to enhance patient outcomes by fostering the adoption of standardized practices for blood transfusions.



INTERVENTION

- The reference guide outlines every step involved in performing a blood transfusion. Based on standards recommendations by the Laboratory, Quality, and Informatics teams, unit leader, unit educator, and elements from national standards guidelines and organizational transfusion policies brought the reference guide to accurately depict all activities required from the start of the transfusion to its completion.
- Bedside nurses were informed of the availability of the reference guide and the information pertained in this tool.

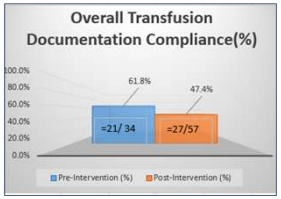
DATA COLLECTION

A pre-and post-design was used to compare transfusion documentation compliance, transfusion events, and nurses' knowledge of transfusion practices before and after the implementation of the reference guide.

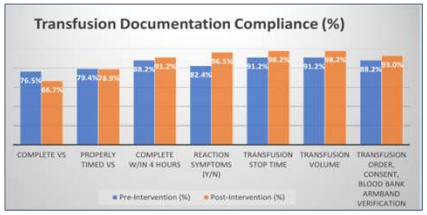
- All transfusion cases that occurred between January and March of 2024, on the medical unit were reviewed and audited for documentation of all essential activities. Transfusion cases were deemed compliant if 100% of the required components were documented in the patient's records.
- A total number of incident reports submitted during January and March of 2024 were compared pre- and post-intervention.
- A Survey was distributed to bedside nurses practiced blood transfusions during the project period, to self-assess their knowledge of safe transfusion practices.

RESULTS

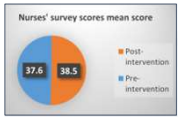
- 0 cases of adverse events for pre- and post-intervention
- Transfusion Documentation Compliance rate: 61.8% pre- (out of 34 transfusions) and 47.4% post-intervention (out of 57 transfusions) (p=0.36)



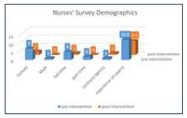
- Compliance improved in five of seven transfusion record fields following the intervention. The only areas that saw a decline were vital sign completion and proper timing of the vital signs.



- Nurses' Survey Scores:
  1. High levels of blood transfusion knowledge = the mean scores were 37.6 out of 40 for the pre-intervention and 38.5 out of 40 for the post-intervention)



  2. Most item scores improved post-intervention, except in understanding transfusion completion time limits and documenting stop time and volume. The item on identifying and responding to transfusion reactions remained unchanged and was the lowest-scoring item in both phases.
  3. Demographics



- Small sample sizes (8 nurses completed the survey pre- and 2 nurses completed the survey post-)

DISCUSSION

This quality improvement project aimed to enhance blood transfusion practices through a standardized reference guide in a medical-surgical/oncology unit. While overall documentation compliance unexpectedly decreased, clinically significant improvements were observed. Errors per transfusion record were reduced from 1.03 to 0.77, and zero adverse events were maintained throughout the project. The intervention showed potential for improving nurses' knowledge of transfusion practices, despite limited participation.

Key limitations:

- Small sample size and low engagement, possibly due to staffing shortages.

Future efforts and sustainability methods:

- Focus on increasing participation, addressing cultural factors, and integrating the guide more effectively into daily practice.
- Establishing a Transfusion Committee and
- Integrating the guide into electronic health records for sustainability.

While not achieving all anticipated outcomes, this project provides valuable insights for future quality improvement initiatives in transfusion care.

EBP MODEL

The Advancing Research and Clinical Practice through close Collaboration (ARCC) model. evidence suggested to use tools and resources for standardized blood transfusion practices. Transfusion practice standardization was associated with safe transfusion practices, effective electronic documentation, and patient outcomes.

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