

Blood Transfusion Protocol Significantly Reduces Blood Product Waste

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Background

- Obstetric hemorrhage is a leading cause of **maternal morbidity and mortality worldwide**
- Obstetric massive transfusion protocols (MTPs) enable rapid access to blood products
 - Typically **1:1:1 (RBC:FFP:platelets)** per ACOG
- **Early transfusion** is critical, as vital signs and labs may lag behind clinical need
- However, up to **33% of blood products** issued during MTP activation are **unused and wasted**
- There is a need for strategies that **maintain rapid access to transfusion** while **reducing unnecessary product utilization**

Hypothesis

- A structured early resuscitation protocol (**OB Fast Pack, OBFP**) can:
 - Provide **rapid access to blood products** in early hemorrhage
 - Reduce **unnecessary allocation and waste** compared to immediate MTP activation
- Therefore:
 - Implementation of OBFP will **decrease blood product waste**
 - While preserving **timely and effective resuscitation**

Study Design and Methods

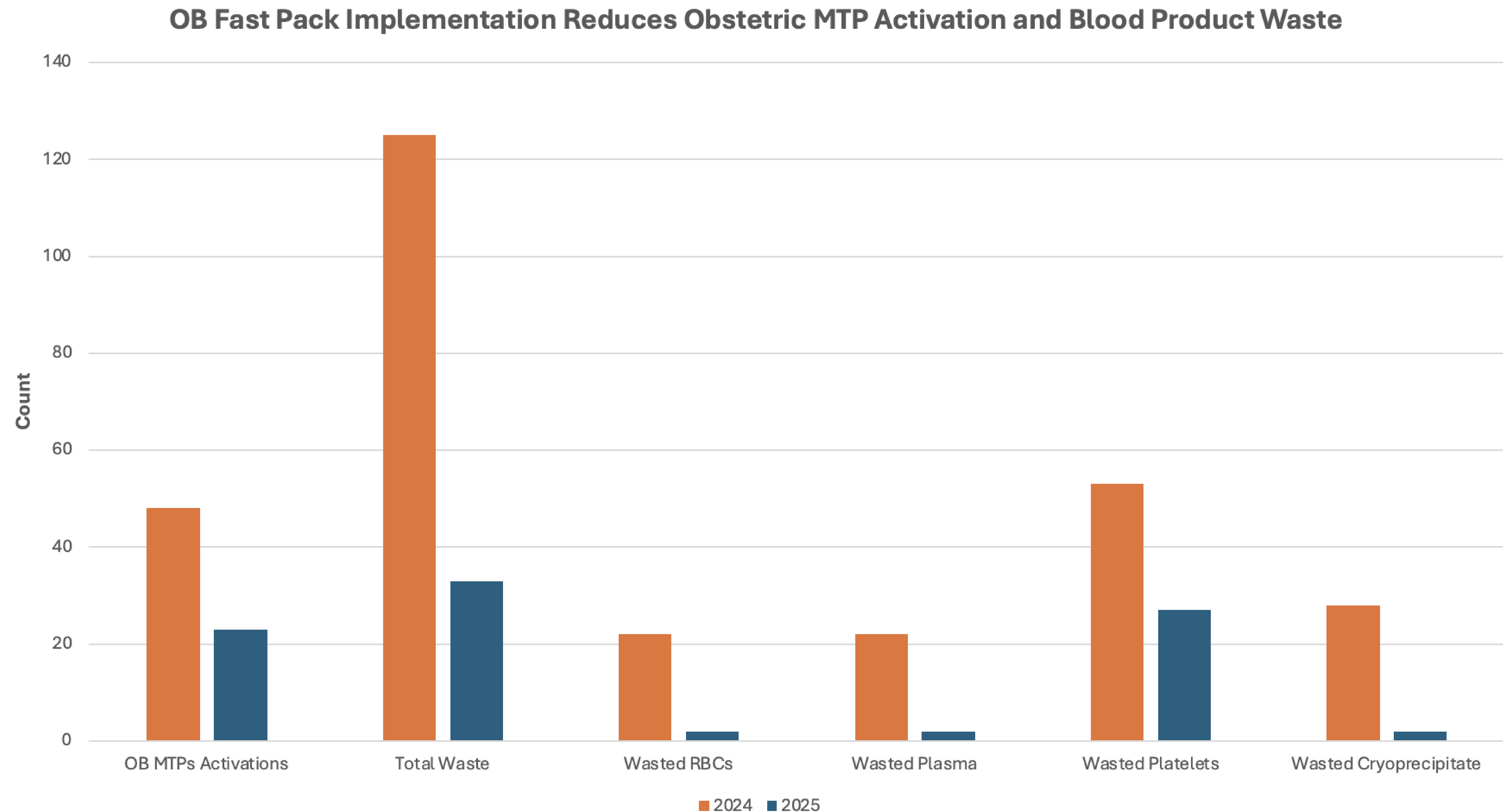
Study Design

- Quality improvement study (pre–post intervention)
- Setting: single-center obstetric service
- Intervention: **OB Fast Pack (OBFP)** protocol (implemented December 2024)
- Population:
 - Obstetric patients with **intrapartum or postpartum hemorrhage**
 - Prior to meeting criteria for full OB MTP activation
- Comparison:
 - Pre-implementation: **standard OB MTP use**
 - Post-implementation: **OBFP + selective escalation to MTP**

Methods

- OBFP protocol:
 - Rapid delivery of **RBCs, FFP, cryoprecipitate (2:2:1 ratio)**
 - Optional fibrinogen supplementation
- Patients with ongoing hemorrhage escalated to **full OB MTP**
- Blood bank quality team measured:
 - Utilization and waste of:
 - RBCs, plasma, platelets, cryoprecipitate
 - Number of **OB MTP activations**
- Timeframe:
 - **First year post-implementation** compared to pre-implementation baseline

Results: OB Fast Pack Reduces Obstetric MTP Activation



Conclusion and Discussion

- **52% decrease** in OB MTP activations following OBFP implementation
- **100% reduction** in OB MTP-associated blood product waste
 - Driven by elimination of **platelet and cryoprecipitate waste**
- **79% lower** blood product waste with OBFP compared to pre-implementation MTP use
- Maintained **rapid access to transfusion** during obstetric hemorrhage
- OBFP provides a **structured alternative to immediate MTP activation** in early hemorrhage
- Promotes **more judicious blood product utilization** without compromising safety
- Use of **pathogen-reduced cryoprecipitate** improves flexibility and reduces waste
- Represents a **cost-conscious, scalable approach** to optimizing obstetric hemorrhage management