



Evaluating Blood Usage Efficiency in Obstetrics and Gynecology: Charting a Path for Patient Blood Management at a Tertiary Care Center

Dr. Priyanka Rathod¹, Dr. Daljit Kaur², Dr. Dixa Kumari³, Dr. Gita Negi⁴, Dr. Ashish Jain², Dr. Deepali Chauhan¹

1. Junior Resident, 2. Associate Professor, 3. Senior Resident, 4. Professor & Head of Department

INTRODUCTION

- Blood transfusion is an essential component of emergency obstetric care and appropriate blood transfusion significantly reduces maternal mortality.

AIM & OBJECTIVES

- This study aims to assess blood usage efficiency in OBGYN patients within tertiary care center which can further help in developing strategies for patient blood management.
- To assess the utilization of blood and appropriateness of blood transfusion using utilization indices
- To determine clinical indication of blood transfusion
- To analyze blood component utilization pattern

MATERIAL & METHODS

- A retrospective observational study spanning from August 2023 to July 2024 was carried out
- All OBGYN requests for various blood components was analysed



- Utilisation indices were calculated and compared with standard
- Patient's clinical diagnosis and indication were recorded and comprehensively analysed
- Type and number of blood components requested & issued was recorded from blood bank software

RESULTS

- A total of **2,621** blood requisitions for **2,375** patients were received from the Department of OBGYN during the study period.
- Of the **3,600** PRBC units crossmatched, 35%(n=1288) were issued to patients, while 64%(n=2313)units were not transfused.

Table 1: Blood Utilisation Indices

UTILISATION INDICES	RESULTS
Crossmatch to transfusion ratio (C/T Ratio)	2.79
Transfusion Probability (T%)	40.8%
Transfusion Index (TI)	0.54

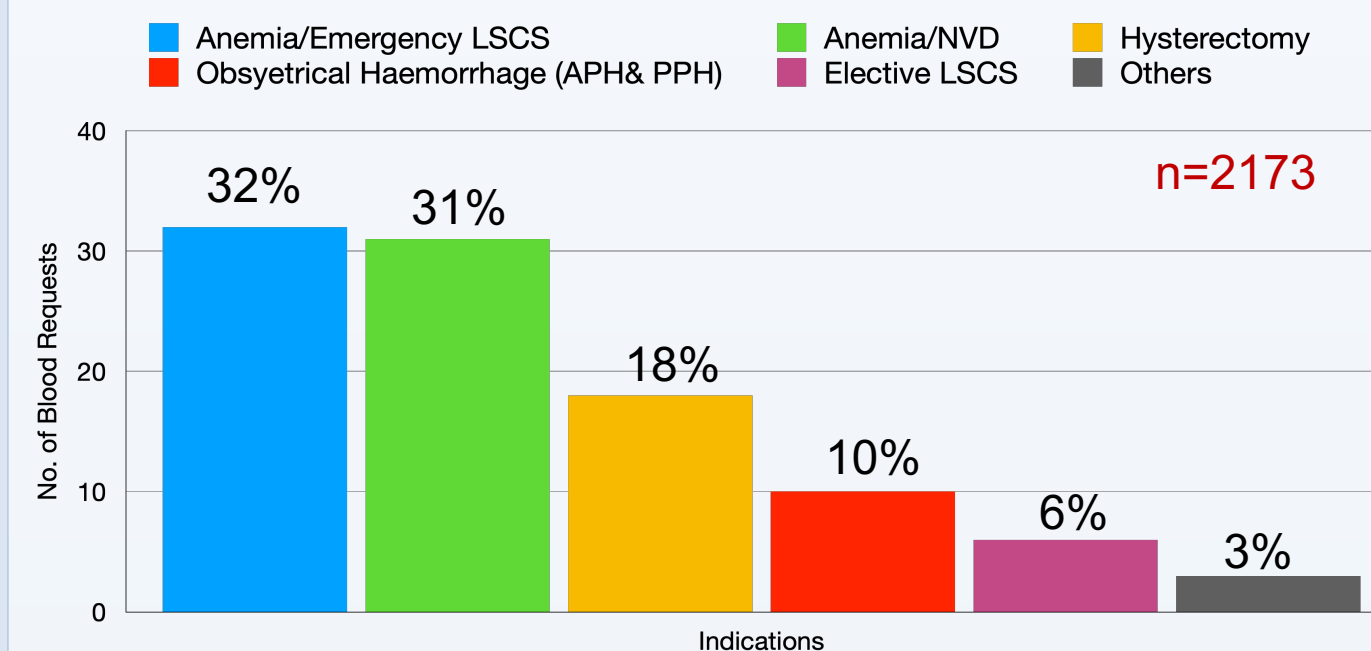


Fig. 1 Blood Requisition Indications of Obstetrics Patients

ABBREVIATIONS

- LSCS- Lower segment caesarean section
- NVD- Normal Vaginal Delivery
- APH- Antepartum Haemorrhage
- PPH- Postpartum Haemorrhage

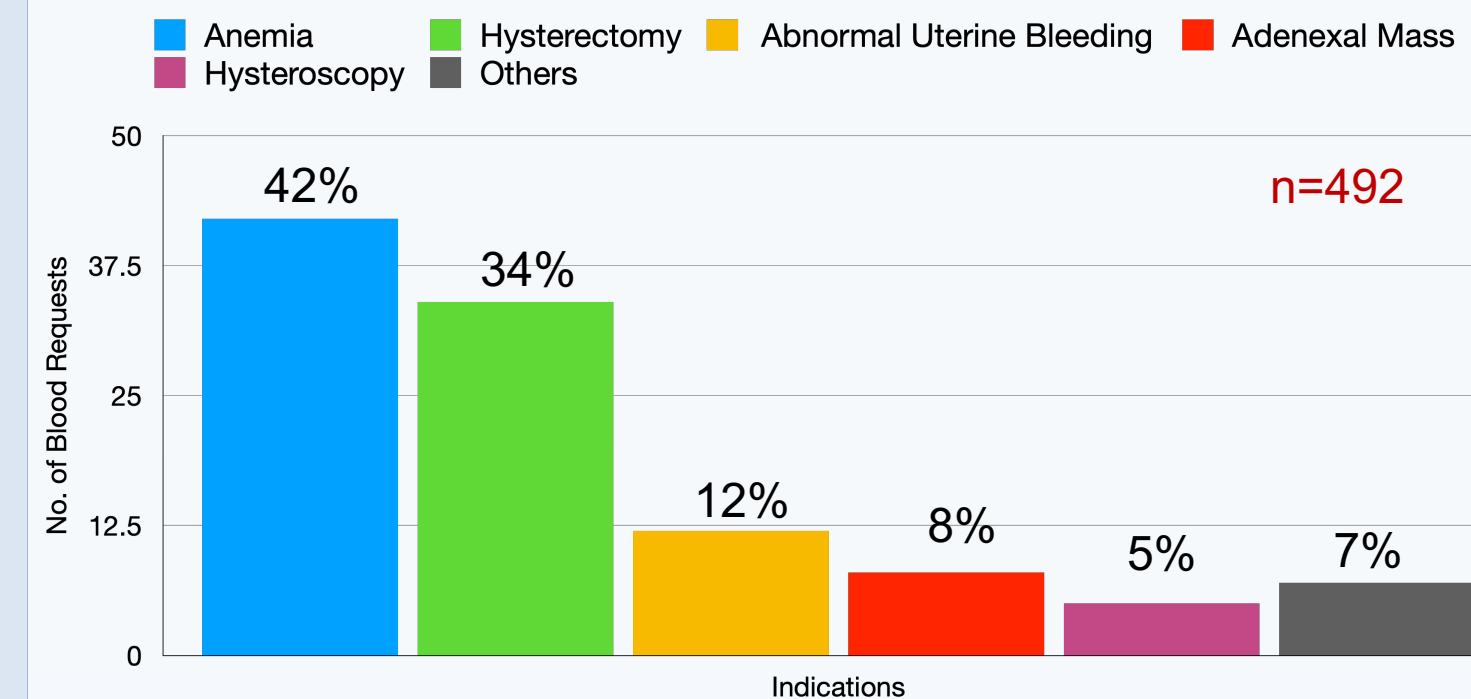


Fig. 2 Blood Requisition Indications of Gynaecology Patients

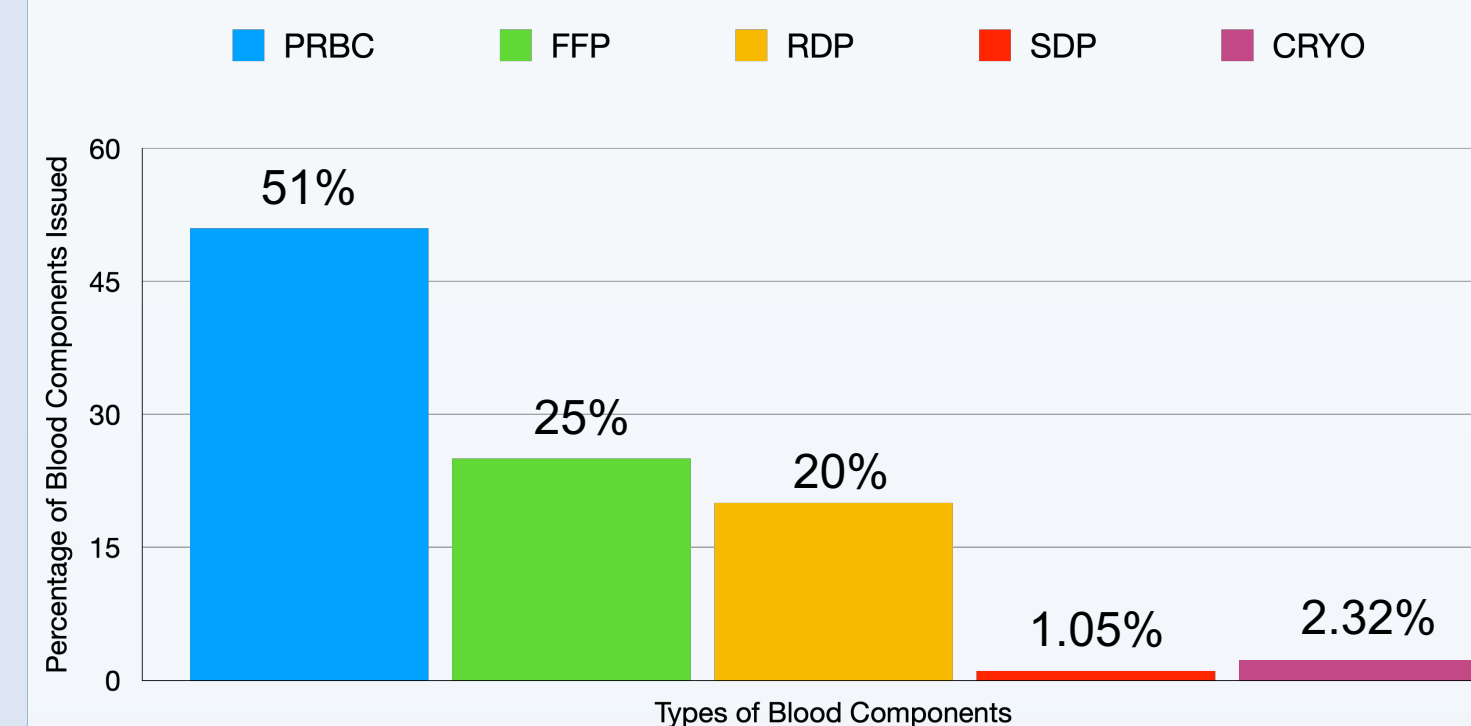


Fig. 3 Distribution of type of blood products transfused of study subjects.

DISCUSSION

- Sharma et.al, 2023** concluded progressive improvement in blood utilisation practices using awareness campaigns encouraging rational & judicious usage of blood components.

- Bangal et.al,2017, Jacob et.al,2021 and Sharma et.al, 2023** also observed the commonest indication for blood transfusion was anemia in antepartum phase which may be chronic due to nutritional deficiency or following acute blood loss, followed by postpartum haemorrhage, placental abruption and placenta previa

CONCLUSION

- Our study showed underutilisation of blood in terms of CT ratio while T% & TI was appropriate.
- The commonest indication of transfusion was severe anaemia in pregnant women which can be corrected in prepartum phase and subsequently reduce need for transfusion.

REFERENCES

- Jacob A, Goyal S, Dhar T. Pattern of utilization of blood and blood components in obstetrics at a tertiary care center: A cross-sectional sijrcog20213859study. International Journal of Reproduction, Contraception, Obstetrics and Gynecology. 2021 Sept 27;10(10):3901. doi:10.18203/2320-1770.
1. Sharma A, Sharma DK, Datta S. Blood utilization trends in obstetrics and gynecology: A Seven-year retrospective study in a teaching hospital in Sikkim, India. Cureus. 2023 Sept 15; doi:10.7759/cureus.45293
1. Bangal VB, Gavhane SP, Aher KH, Bhavsar DK, Verma PR, Gagare SD. Pattern of utilization of blood and blood components in obstetrics at Tertiary Care Hospital. International Journal of Reproduction, Contraception, Obstetrics and Gynecology. 2017 Sept 23;6(10):4671. doi:10.18203/2320-1770.ijrcog20174462

CORRESPONDENCE

Dr. Priyanka Rathod
Junior Resident
Department of Transfusion Medicine & Blood Bank
AIIMS Rishikesh