



AUDIT OF BLOOD REQUISITION IN A BLOOD CENTRE OF A TERTIARY CARE HOSPITAL.

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ABSTRACT:

Introduction: Blood transfusion audits are extremely important in the health-care system to assess & educate those requesting blood components. It provides documentation of the measures taken for improvement and their results, as well as the safe and rational use of blood products.

Materials and Methods: This was a cross sectional study, conducted in the blood centre of Vinayaka Missions Kirupananda Variyar Medical College and Hospitals, Salem over a period of 6 months. A total number of 1020 forms were included, requested from July 2022 to December 2022. Name, gender, age, ward, bed number, provisional diagnosis or indication of transfusion, history of blood transfusion, requested blood component, number of units required, nature of request (urgent, immediate, when convenient), date and time of when required, and requesting doctor's name and signature were included as required parameters. The results obtained were analyzed using SPSS version 24.

Results: Among 1020 blood requisition forms audited, the name was filled out in all 1020 (100%), age 744 (73%), gender 561 (55%), ward 958 (94%), bed number 51 (5%), provisional diagnosis 183 (18%), history of previous transfusion 173 (17%), hemoglobin 663 (65%), blood grouping 673 (66%), Rh typing 765 (75%), Authorized by 816 (80%), Specimen sent by 805 (79%), Sign of medical officer 693 (68%), type of blood component 714 (70%), Number of units 102 (10%) and Date and time of requirement was filled in 92 (9%) forms.

Conclusion: From this study, we can infer that audit of all blood requisition forms at the point of receiving is vital in determining blood requisition errors. Our study demonstrates, improvement in current blood transfusion practices through CME & training of staff is necessary to increase amenability regarding sending appropriate filled blood requisition forms & samples to blood centre.

Keywords: Blood transfusion, blood component, audit, Hemovigilance, CME.

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INTRODUCTION

Blood transfusion services are extremely important in the health-care system. Hemovigilance is critical in ensuring the quality of the blood transfusion chain. It provides documentation of the measures taken for improvement and their results, as well as the safe and rational use of blood products.^[1]

Blood Request Forms and Blood Transfusion Forms are available to ensure proper communication between blood transfusion services and clinicians. These communication tools are critical for monitoring and evaluating the quality control process.^[2] An audit of these services is required to identify errors and maintain international guidelines criteria.

Injudicious preoperative over-ordering of blood can burden the physical and human resources of health care facility and increase the cost of medical care.^[3] In the absence of an explicit maximum blood order policy, ordering for blood transfusion is frequently based on subjective anticipation of blood loss instead of evidence-based estimates of average requirement in a particular procedure, which has greater implications in resource-constrained settings. Data collected from many developing countries have shown gross over-ordering of blood in 40%–70% of the transfused patients.^[4]

The ultimate goals are to provide safe blood, have adequate inventory, reduce wastage of blood products, and avoid unnecessary use of laboratory services without jeopardizing patient safety. Review of blood ordering habits and blood utilization statistics can help in improving these services and initiate measures to regulate blood ordering and utilization.^[5] A strong institutional commitment in the form of guidelines, workshops, revision of blood centre data (blood centre audits), and implementation of new blood ordering policies (like type and screen (T/S) and maximum surgical blood ordering schedule (MSBOS) for surgical procedures where blood is actually seldom needed) are required.

The current study was performed in order to analyse the practices of clinicians while requesting blood from the blood centre of Vinayaka Missions Kirupananda Variyar Medical College and Hospital, Salem.

MATERIALS AND METHODS

This cross sectional study was conducted in the blood centre, Vinayaka Missions Kirupananda Variyar Medical College and Hospital, Salem over a period of 6 months from July 2022 to December 2022. A total number of 1020 forms were included. Name, gender, age, ward, bed number, provisional diagnosis or indication of transfusion, history of blood transfusion, requested blood component, number of units required, nature of request (urgent, immediate, when convenient), date and time of when required, and requesting doctor's name and signature were among the seventeen categories required. Blood Requisition forms of Vinayaka Missions Kirupananda Variyar Medical College and Hospitals, Salem were scrutinized. It was counter checked with error Reporting Register and with these documents, results were analyzed using SPSS version 24.

RESULTS

Among these 1020 forms included, the name was filled out in all 1020 (100%), age 744 (73%), gender 561 (55%), Hospital No or IP No 816 (80%) ward 958 (94%), bed number 51 (5%), provisional diagnosis 183 (18%), history of previous transfusion 173 (17%), hemoglobin 663 (65%), blood grouping 673 (66%), Rh typing 765 (75%), Authorized by 816 (80%), Specimen sent by 805 (79%), Sign of medical officer 693 (68%), type of component 714 (70%), Number of units 102 (10%) and Date and time of requirement was filled in 92 (9%) forms (Table 1 and Figure 1).

Table 1: Percentage of Blood Request Forms for Various Parameters

Parameter	Complete (%)	Incomplete (%)	Errors (%)
Name	100	0	0
Age	73	20	7
Gender	55	35	10
Hospital No or IP No	80	10	10
Ward	94	4	2
Bed No	5	90	5
Provisional diagnosis	18	60	12
History of transfusion	17	70	13
Hemoglobin	65	30	5
Blood grouping	66	25	9
Rh Typing	75	15	10
Authorized by	80	10	10
Specimen sent by	79	9	12
Sign of medical officer	68	15	17
Nature of the product or type of component	70	20	10
Number of units	10	80	10
Date and time of requirement	9	81	10

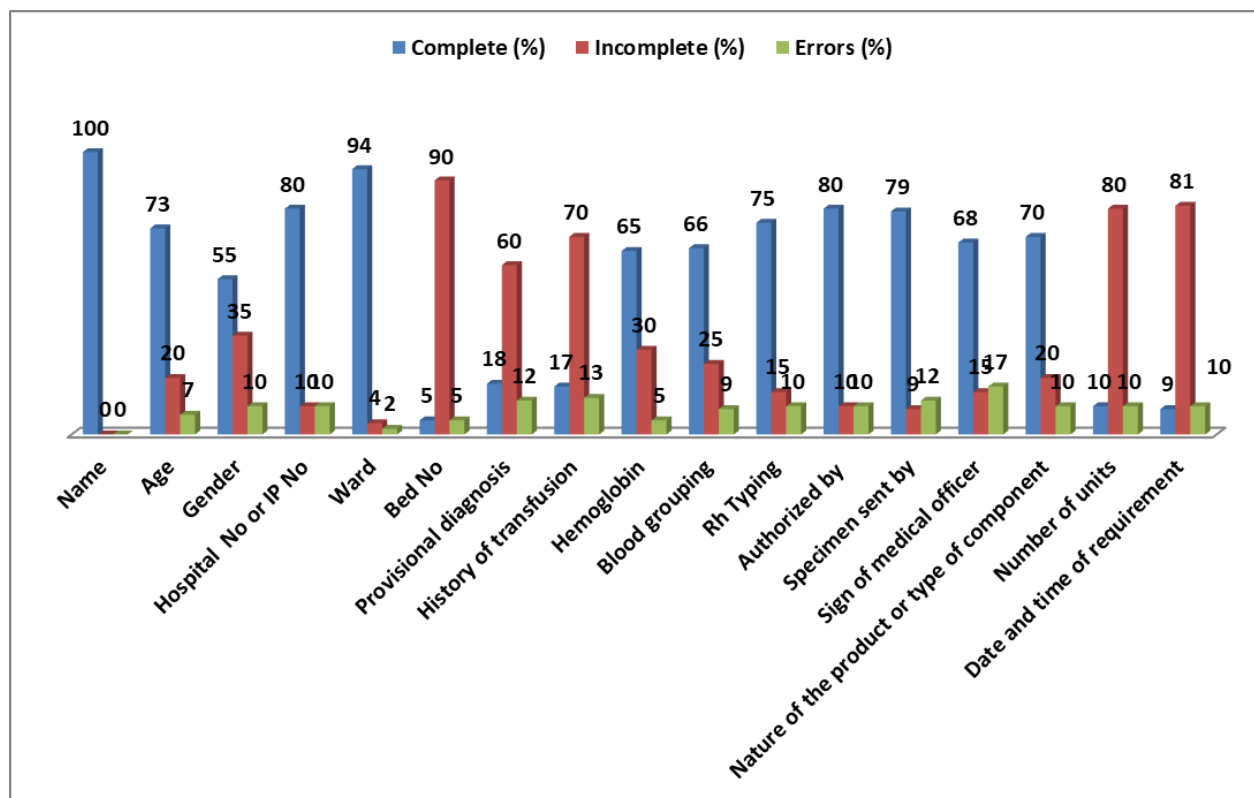


Figure1: Percentage of Blood Request Forms for Various Parameters

Among 1020 forms filled, most were requested from EM that is 600 (58.8%), 161 (15.8%) from the Gynaecology and Obstetrics department while remaining were requested from paediatrics ward 49 (4.8%), NICU 71 (7%), Female Medical Ward 24 (2.4%), Female Surgical Ward 31 (3%), Male Medical Ward 17 (1.6%), Male Surgical Ward 19 (1.9%), Operation Theatre 15 (1.5%), Neurology 9 (0.9%), Burn unit 7 (0.7%), ICU 8 (0.8%), CCU 2 (0.2%), Orthopaedics 7 (0.7%). For the 675 forms which were filled out for the blood component required, 454 (67.3%) demanded whole blood, 180 (26.7%), 28 (4.2%) and 12 (1.8%) requested RCC, Plasma and Platelet concentrate respectively. For the forms signed by the requesting doctor only 838 (85.4%) had both the name and signature while 143 (14.6%) only had the signature.

DISCUSSION

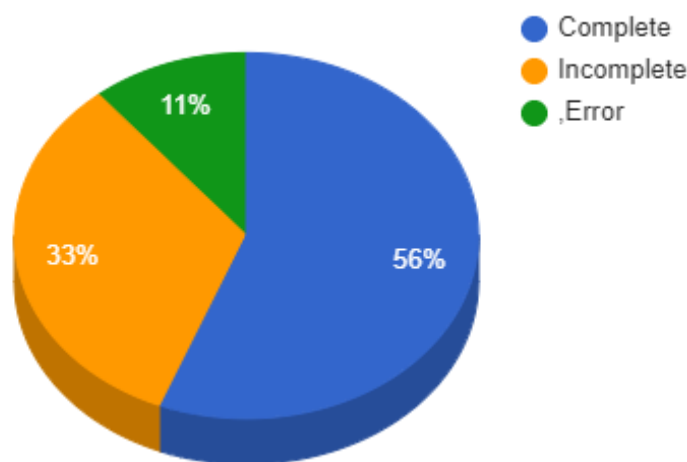


Figure 2: Blood Requisition Forms filling status

A clinical audit is a management tool for appraisal as well as an important part of quality assurance, providing the information needed to improve TM practices. Transfusion services frequently receive incomplete forms with insufficient patient information. A common misconception among health-care providers is that sending a request form without providing clinical details about the patient requires only a blood sample or a blood group report.^[6] A few studies have looked at the frequency of incomplete blood requisition forms and found that there are deficiencies in completing requisition forms. Clinicians who counsel and advise patients about transfusion therapy must accurately describe both the patient's details and the component details.^[7]

In a 2014 study in Nigeria, the BRF completion rate was 81.2%, compared to 33.5 % in the current study. 1085 BRFs were tested over a three-month period. In all forms, the patient's name was filled out, which is comparable to the current study. The requesting physician's name and signature were filled out on 60.8% of the forms, compared to 96.1% in the current study. This study included the name and signature of the BRF receiver, which was not included in the current study, while the rest of the evaluation parameters were similar.^[8]

In 2015, another study in Nigeria found that only 1.3% of lab request forms were completed. Similar studies have been conducted in India; in 2018, Patidar et al reported a 39.1% completion rate for BRFs. They also reported that after educating clinicians on the importance of responsible BRF completion, the completion rate increased by 42.66%.^[9]

Pandey et al. reported in 2020 that only 45.7% of blood requisition forms had complete correct entries, but after clinicians were educated, this increased to around 76.7%, which appears very promising. According to a 2019 study published in Brazil, 63% of BRFs were completed in accordance with current transfusion recommendations, which appears promising.

In another study published in 2020, Ghazanfer et al reported that in a 6-month study in a tertiary care hospital in Pakistan, only 6.8% of forms were completely filled, with 97% of forms only having the patients' complete demographic data while other fields of the blood request form were ignored. The completion rate is very low, and it is even lower in the current study.^[10]

CONCLUSION

The analysis of 1020 blood requisition forms requested from July 2022 to December 2022 revealed that only 33.5% of the forms were filled in accordance with National blood transfusion recommendations, while 66.5% of the forms had multiple deficiencies. This demonstrates that, improvement in current blood transfusion practices through CME & training of staff is necessary to increase amenability regarding sending appropriate filled blood requisition forms & samples to blood centre.

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CONFLICT OF INTEREST: Nil.

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