



**STUDY OF A MULTIDISCIPLINARY  
HOSPITAL'S BLOOD BANK WITH A FOCUS  
ON EFFECT OF BLOOD TRANSFUSION ON  
ADULTS IN THE CONTEXT OF ANEMIA,  
SURGERY, TH, BURN CASE, HEMOPHILIA,  
EX. TRANS**

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## **INTRODUCTION**

A multifunctional hospital's blood bank is essential to ensuring that patients in need have access to a sufficient and safe supply of blood products. It is crucial to comprehend how blood transfusions affect people in a variety of medical settings to improve results and patient care. Anaemia is a condition where there are fewer red blood cells or haemoglobin, which reduces the capacity of the blood to deliver oxygen. Blood transfusions are routinely given to adults with severe anaemia to improve oxygenation and replenish red blood cells. The effectiveness of blood transfusion in increasing haemoglobin levels, easing symptoms, and enhancing overall health in Anaemic patients will be evaluated in this study [1]. Blood transfusions may be required during surgical procedures to maintain an acceptable blood volume and oxygen delivery to tissues. Understanding how blood transfusion influences surgical outcomes is vital for delivering the best care to patients. The study will examine how transfusions assist surgical patients in healing more rapidly and reduce their fatality rates. Trauma and burn cases present unique difficulties because of the significant blood loss and fluid changes that occur. Blood transfusions are routinely utilized as part of the resuscitation effort in these circumstances. The effect of blood transfusion on hemodynamic stability, tissue perfusion, and wound healing in burn and trauma patients will be examined in this study [2]

A genetic condition called haemophilia causes problems with blood clotting. To replenish the inadequate clotting factors, haemophiliacs frequently need blood transfusions [3]. The goal of the study is to determine how well transfusions work in preventing and controlling bleeding episodes, minimizing joint injury, and enhancing quality of life for haemophiliacs.

## **RESEARCH OBJECTIVES**

### **General Objectives:**

1. To study the Multidisciplinary Hospital's Blood Bank with a Focus on the Impact of Blood Transfusion on Adults would be the study's overarching goal.

### **Specific Objectives:**

1. To estimate the extent of Blood Transfusion among adults.
2. To estimate the in which Blood Transfusion is highly required in the context of Anemia, Surgery, TH, Burn case, Hemophilia, Ex. Trans.
3. To estimate the extent of Blood Transfusion in Life Supportive, Therapeutic & Life Saving Activity.

### **RESEARCH METHODOLOGY**

The methodology for the study of a multidisciplinary hospital's blood bank, focused on the effects of blood transfusion on adults, employed a descriptive and retrospective design. Data collection involved both primary data, gathered through observations and patients' medical records, and secondary data from hospital and department records. The study spanned three months, from March 1, 2022, to May 15, 2023, and utilized the Excel package for data analysis. Variables considered encompassed patient demographics, underlying medical conditions, and blood transfusion details, while clinical outcomes include mortality, morbidity, hospital stay duration, and adverse transfusion reactions. Limitations of the study involved its retrospective nature, potential for missing data, susceptibility to confounding factors, and the applicability of findings to broader contexts.

### **RESULTS & DISCUSSION**

A total of 1132 units –89 from voluntary donors and 1043 from replacement donors. Testing revealed positive cases for HIV, Hepatitis-B, Hepatitis-C, VDRL, and Malaria, emphasizing the importance of stringent screening protocols. Analysis of age groups demonstrated a predominant population of younger adults (18-35 years), indicating potential advantages in transfusion outcomes. Haemoglobin level distribution highlighted a significant number of patients with levels between 5–10, necessitating interventions such as blood transfusions. The study identified a substantial demand for transfusions in anaemic cases (51%) and surgical procedures (38%), emphasizing the critical role of

blood supply in treating various medical conditions. The impact analysis categorized transfusions into life-supportive (55%), therapeutic (34%), and life-saving activities (11%), showcasing the diverse roles blood transfusions play in patient care. This comprehensive analysis underscores the vital role of blood transfusions in medical interventions, emphasizing the need for precise testing, tailored transfusion plans, and adherence to safety protocols for optimal patient outcomes.

## **CONCLUSION**

In conclusion, the study of a multidisciplinary hospital's blood bank with a focus on the effects of blood transfusion on adults in the context of various conditions provides valuable insights into the utilization and impact of transfusions in different patient populations. The results revealed that the top conditions requiring blood transfusions in this hospital include anaemia, surgical procedures, trauma, and haemorrhage, burn cases, and haemophilia/excessive bleeding. It focused on how important blood transfusions were for treating bleeding problems, anemia, and replenishing blood lost after operations and traumatic events.

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