

Pattern of Blood Procurement and Utilization in a University Hospital in Southeast Nigeria

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Abstract

Background: Blood is a scarce commodity and every effort needs to be made to use it judiciously and avoid wastage. This study reviewed the pattern of blood procurement, ordering, and utilization at a hospital-based blood bank. **Materials and Methods:** This was a retrospective study in which data on blood procurement methods, pattern of requisition of blood, and outcome of issued blood were obtained from blood bank registers over a 2-year period at the Nnamdi Azikiwe University Teaching Hospital blood bank. **Results:** Approximately, 99% of donors were family replacement donors. In 2014, total blood donated was 4003 which exceeded the request for red blood cell (RBC) transfusion by 921 units. The highest request for blood was from the accident and emergency and 90% of blood issued were used. Overall percentage wasted of RBCs was 19.8% and the major contributors to these were antenatal clinic and labor ward both having 80% and 55.8% issued blood returned to blood bank unused. **Conclusion:** The proportion of wasted units of RBC is high. Designing and adhering to maximum blood ordering schedule and blood transfusion guidelines with efforts toward converting family replacement donors to voluntary blood donors will help in maintaining a steady supply of safe blood.

Keywords: Blood donors, transfusion-transmittable infections, wastage

INTRODUCTION

Globally, the demand for blood or blood component transfusion is ever increasing either due to increasingly sophisticated surgical procedures, traumatic injuries, cancer care, obstetric complications, blood-related disorders, and many medical advances requiring blood transfusion for patient survival.^[1] The supply of blood is, however, often not commensurate to its demand, especially in the developing countries. The average donation rate in Africa is 4.3 donations/1000 populations which are 10 times less than it is in the developed countries, and in 2006, the WHO reports showed that only 41.5% of demand for blood was met.^[2,3]

Ten donations per a 1000 population is required to meet a nation's blood supply demand.^[1] At our current level of healthcare delivery in Nigeria, an estimated 1.5 million units of blood is required annually, howbeit at the present donation rate of 0.2 donations/1000 population, this cannot be met.^[2,4] This implies that available blood must be used judiciously to avoid wastage. Many studies have looked at waste that comes from overordering leading to unnecessary crossmatch with minimal

utilization.^[5-9] This includes waste of technical time, reagent, and unnecessary cost to the patient. However, real wastage of blood can be incurred when crossmatched blood is actually dispatched from the blood bank and subsequently returned unused to the bank. Timely availability of blood in health-care facilities is essential for patient survival; therefore, a very robust blood transfusion service with efficient strategies for blood procurement and mechanisms for reducing blood wastages is critical to the attainment of quality healthcare delivery.

This study aimed to review the methods of blood procurement, pattern of demand, and the effective use of blood in the blood transfusion service of the Nnamdi Azikiwe University Teaching Hospital (NAUTH) to provide recommendations for improvement.

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