Open Access Blood Research & Transfusion Journal
ISSN: 2575-8934

Juniper Publishers
key to the Researchers

Short Communication
Volume 3 Issue 1 - June 2019
DOI: 10.19080/OABTJ.2019.02.555604

Open Acc Blood Res Trans J

How to Determine the Needs for Safe Blood in Low- and Middle-Income Countries – Expectations and Realities

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Submission: June 17, 2019; **Published:** June 25, 2019

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Abstract

The need for safe blood is determined at the bedside. The process is based on proper diagnosis, indication setting and decision making. In a majority of hospitals there is no focused policy to allow the determination of the actual needs. Unfortunately, most medical education curricula do not provide tailored education in transfusion medicine and in particular in the clinical application. This is particularly the current reality in low- and middle-income countries. The clinical transfusion chain has three elements – 1. diagnosis, indication, decision and prescription (ordering); 2. selection and compatibility testing (laboratory); 3. bedside identification and transfusion (practice). This analysis needs an anchor in a hospital transfusion system. Documentation is paramount and competence of staff (knowledge and skills) involved instrumental to the implementation, where a well-developed supplier-consumer relationship will lead to the ultimate success.

Keywords: clinical transfusion need; clinical interface; blood transfusion; quality management

Introduction

The need for safe blood is determined at the bedside. The process is based on proper diagnosis, indication setting and decision making [1]. This includes the consideration of alternatives and the knowledge and experience of benefits and risks of the use of blood. Evidence-based transfusion medicine is paramount to determining the ultimate need as a dynamic over time. However, in a majority of hospitals there is no focused policy to allow the determination of the actual needs. Unfortunately, most medical education curricula do not provide tailored education in transfusion medicine and in particular in the clinical application. This leaves prescribing clinicians with a paucity of background knowledge and appropriate experience to come to rational decision making [2]. Additionally, there is a distinct gap in the communication between prescribers and suppliers. Hence, suppliers (blood banks) have no real idea of what the needs to supply are and how these develop over time. The consultative role of the supplier is seldom comprehensive and centred around the clinical problem. Transfusion medicine is a vein-to-vein science and related practice, comprising both procurement and provision of safe and efficacious blood as well as appropriate clinical application and related outcome [3,4].

Approach

The 1991 WHO definition [5] still has not generated the attention and perception it deserves to allow the construction of a universal system to determine the clinical needs to be met in a country. The clinical transfusion chain has three elements – 1. diagnosis, indication, decision and prescription (ordering); 2. selection and compatibility testing (laboratory); 3. bedside identification and transfusion (practice) [1]. With the decision to transfuse the expected outcome has been defined. With the transfusion of the selected blood the ultimate outcome is observed, allowing a benchmark of these two for evidence-based transfusion medicine (haemovigilance) and determining of the actual needs. This analysis needs an anchor in a hospital transfusion system. Documentation is paramount and competence of staff (knowledge and skills) involved instrumental to the implementation, where a well-developed supplier-consumer relationship will lead to the ultimate success.

Expectations

Without underestimating the importance of the procurement and provision part of the chain, the determining of the needs starts at the bedside. Patients are transfused and not so much test tubes. Most safe blood programmes are focused on technical procurement with an element of provision. However, the clinical part is hardly ever addressed from inside the hospitals and grossly neglected from the supplier side [6]. So, in the development of a safe and sustainable blood supply and transfusion system, there is an urgent need to reverse some of the current approaches.

Realities

A road map could then be to develop:

i. Mutual respect and confidence (clinical interface);

ii. An in-hospital awareness and culture to prescribe, select and transfuse within the setting of a hospital transfusion policy and based on clinical guidelines drafted and endorsed by clinicians;

iii. An in-hospital transfusion practice-based quality system to be managed by all staff involved – clinicians, nurses, technicians and others;

iv. Appropriate and continued education in clinical use of blood.

Such road map justifies the expectation that for the future an evidence-based determining of the needs will be become reality.

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DOI: 10.19080/OABTJ.2019.03.555604

How to cite this article: Cees Th Smit S, Arwa Z. Al-R, Isaac K, Maya M, Erdenebayar N. How to Determine the Needs for Safe Blood in Low- and Middle-Income Countries – Expectations and Realities. Open Acc Blood Res Trans J. 2019; 3(1): 555604. DOI: 10.19080/OABTJ.2019.03.555604.