

# REPORTS



## Report on the ISBT Academy Day Haemovigilance Workshop

## Rapport de l'atelier de la Journée Académique de la SITS sur l'Hémovigilance

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### BACKGROUND

This report summarizes the outcome of group discussions on Haemovigilance that was organized as part of the Haemovigilance Workshop held during the International Society of Blood Transfusion (ISBT) Academy day on the first day of the 9<sup>th</sup> International Congress of the Africa Society for Blood Transfusion (AfSBT) from 19-22 June 2018 in Arusha, Tanzania.

The Academy day, which was opened to all registered delegates, was facilitated by experts from the ISBT and AfSBT. The activities of the day commenced with presentations by facilitators including Ravi Reddy (South Africa), Jean-Claude Faber (Luxembourg), Andre Loua (Guinea), Erica Wood (Australia), Jo Wiersum (The Netherlands), Britta Lohrke (Namibia) and Swaibu Katare (Rwanda). The presentations were followed by open discussions in the morning and participatory group discussions in a workshop in the afternoon. For the purposes of the workshop, participants were divided into four (4) breakaway groups as shown in Table 1. The chairs, co-chairs and rapporteurs are detailed in Table 2.

**Table 1: Grouping of the participants per region**

Group	Regional Grouping	Countries represented	Number of Participants
1	East African Community (EAC)	Australia, Kenya, Netherlands, Southern Sudan, Tanzania, Rwanda, United States of America	61
2	French-speaking countries in Africa	Belgium, Benin, Burkina-Faso, Cameroon, Congo, Cote D'Ivoire, France Guinea, Luxemburg, Niger, United States of America	15
3	Maghreb, English-speaking Economic Community of Central Africa States (ECCAS), Economic Community of West Africa States (ECOWAS)	Egypt, Ghana, Nigeria, South Africa, Zambia	19
4	Southern African Development Community (SADC)	Botswana, Mauritius, Namibia, South Africa, Swaziland, Zimbabwe	25

**Table 2: Chairs, co-chairs and rapporteurs for the regional groupings at the ISBT Haemovigilance Academy Day**

Group	Chair and co-chair	Rapporteur
1	Jo Wiersum, Charles Rambo	Swaibu Katare
2	Jean Claude Faber, Jean Baptiste Tapko	Claude Tayou Tagny
3	Judith Chapman, Mohammed Farouk	Justina Ansah
4	Britta Lohrke, Erica Wood	Leslie Bust

This report focuses on the outcome of discussions by delegates from the four groups. There were a total of 120 participants who were Blood Transfusion professionals from 27 countries within and outside Africa.

### Discussion objectives

The group discussions were designed to achieve the following specific objectives:

1. Understanding the advantages of haemovigilance
2. Rating the importance and stage of development of haemovigilance system in different environments
3. Identifying the most serious hazards of transfusion
4. Outlining the most common hazards of transfusion
5. Outlining important actions required to introduce, maintain, and improve a haemovigilance system

### Breakaway group questions

Each breakaway group discussed the same five questions that are as follows:

1. In the opinion of the group, what are the three main advantages of a haemovigilance programme to a blood service?
2. How do individual group members rate the importance and stage of development of a haemovigilance system within their own environment? (a: not a high priority, not in place, and no firm plans to introduce at this stage, b: at the early stages of development (less than 2 years since being initiated), c: guidance and partners would be helpful (describe specific area of support), d: haemovigilance has been implemented but information gathered is sketchy, e: haemovigilance reports are published and provide focus on addressing transfusion hazards).
3. What does the group identify as the three most serious hazards of transfusion?
4. What does the group identify as the three most common hazards of transfusion?
5. What are important actions that should be taken to introduce and maintain, and constantly improve, a haemovigilance system?

### OUTCOMES

Summaries of the results of each of the questions are presented in the tables 3, 4, 5 and 6 below. The main advantages of haemovigilance identified were: raising awareness and opportunities to address them, part of broader quality management framework (haemovigilance data can be used to improve quality and show us where to improve), improve safety for donors and patients, better understanding of clinical risks and how blood is used (if we understand this better, we will have better management of these products and make better use of the blood that we have), to reduce expenditure in our system and aim for BEST PRACTICE.

**Table 4: Importance and stage of development of haemovigilance system as reported by group participants**

Group	Importance and stage of haemovigilance
1	<ul style="list-style-type: none"> <li>• Not a high priority: 1 [South Sudan]</li> <li>• At early stages: 2 [Tanzania, Kenya]</li> <li>• Guidance and partners would be helpful: 1 [Tanzania]</li> <li>• Haemovigilance implemented but information is sketchy: 3 [Kenya, Nigeria, Australia]</li> <li>• Haemovigilance implemented and well developed: 2 [U.S.A, the Netherlands]</li> </ul>
2*	<ul style="list-style-type: none"> <li>• Not a high priority: 1</li> <li>• At early stages: 3</li> <li>• Guidance and partners would be helpful: 3</li> <li>• Haemovigilance implemented but inappropriate: 1</li> <li>• Haemovigilance implemented and well developed: 1</li> </ul>
3	<ul style="list-style-type: none"> <li>• Not a high priority: 0</li> <li>• At early stages: 2 [Zambia, and Nigeria (State Blood Service environment)]</li> <li>• Guidance and partners would be helpful: 1 [Nigeria (University teaching hospital environment)]</li> <li>• Haemovigilance implemented but inappropriate: 3 [Egypt, Ghana, Nigeria (Hospital blood bank environment)]</li> <li>• Haemovigilance implemented and well developed: 1 [South Africa]</li> </ul>
4	<ul style="list-style-type: none"> <li>• Not a high priority: 0</li> <li>• At early stages: 1 [Mauritius]</li> <li>• Guidance and partners would be helpful: 2 [Swaziland, Zimbabwe]</li> <li>• Haemovigilance implemented but information is sketchy: 1 [Botswana]</li> <li>• Haemovigilance reports implemented and well developed: 2 [Namibia, South Africa]</li> </ul>

\* 60% of countries were at early stages or/and needed guidance

**Table 3: Advantages of a haemovigilance programme to a**

Group	Advantages of a haemovigilance programme to a blood service
1	<ul style="list-style-type: none"> <li>• Reduces wastage of blood products and strengthens the quality management system (QMS) in the blood service (cost cutting that subsequently leads to financial sustainability)</li> <li>• Improves donor/patient safety which prevents morbidity and death</li> <li>• Improves donor selection and retention</li> </ul>
2	<ul style="list-style-type: none"> <li>• Improves blood safety from vein to vein for donor and recipients</li> <li>• Ensures appropriate management of resources (financial, human, material and products)</li> <li>• Enhances communication and cooperation between health services, administration and blood services</li> <li>• Improvement of quality system</li> </ul>
3	<ul style="list-style-type: none"> <li>• Helps to ensure improvements in QMS</li> <li>• Serves as a tool for best practices and allows the Blood Service to target areas in need of various levels of improvement for corrective intervention</li> <li>• Enhances communication and education between hospital staff including clinicians and blood service staff</li> </ul>
4	<ul style="list-style-type: none"> <li>• Better understanding of clinical use, product demand and the education needs of doctors and healthcare workers</li> <li>• Improvement of quality and safety of blood products with an overall risk assessment management system and more accurate reporting of data</li> <li>• Reduction of unnecessary transfusions, wastage and harm to patients leading to the maintenance of sustainability</li> </ul>

**Table 5: Most serious hazards and common hazards of transfusion as identified by participants per group**

Group	Most serious hazards of transfusion	Most common hazards of transfusion
1	<ul style="list-style-type: none"> <li>Misdirected transfusions resulting in ABO incompatibility (specifically AHTR)</li> <li>Transfusion Transmitted Infections (TTI)</li> <li>Severe respiratory complications of transfusion including Transfusion Associated Circulatory Overload (TACO)</li> </ul>	<ul style="list-style-type: none"> <li>Allergic/anaphylactic reactions (mild and serious)</li> <li>Acute Febrile Haemolytic Transfusion Reactions (AFHTR)</li> <li>Delayed transfusion reactions</li> </ul>
2	<ul style="list-style-type: none"> <li>Acute intravascular haemolysis following ABO incompatibility</li> <li>Transfusion Transmitted Infections (TTI) e.g. HIV</li> <li>Transfusion Associated Circulatory Overload (TACO)</li> </ul>	<ul style="list-style-type: none"> <li>Febrile non haemolytic reaction</li> <li>Allo-immunization (ABO, Rh, Sub-Rhesus groups)</li> <li>Allergic reaction</li> </ul>
3	<ul style="list-style-type: none"> <li>Acute haemolytic transfusion reactions</li> <li>Septic shock</li> <li>TRALI</li> </ul>	<ul style="list-style-type: none"> <li>Febrile transfusion reactions</li> <li>Allergic transfusion reactions</li> <li>Allo-immunization of all forms (red blood cells, white cells, platelets, plasma proteins)</li> </ul>
4	<ul style="list-style-type: none"> <li>Misdirected transfusions resulting in ABO incompatibility</li> <li>Transfusion Transmitted Infections</li> <li>Severe respiratory complications of transfusion including TRALI, TACO and anaphylactic reactions.</li> </ul>	<ul style="list-style-type: none"> <li>Allergic reactions</li> <li>Febrile non-haemolytic reactions</li> <li>Severe allergic and anaphylactic reactions.</li> </ul>

The importance and stage of development of a haemovigilance system varied between countries. It was noted however that there is diversity across the continent even within a county in some cases (Nigeria), with regard to region or type of hospital, which influenced elements of haemovigilance.

Participants identified the following as the most serious hazards of transfusion: acute haemolytic transfusion reaction (including wrong blood to patient), transfusion transmissible infections, severe respiratory complications of transfusion, anaphylactic reactions, lack of availability of data, availability of blood which may cause delays and under transfusion (however there is no data to support this) and inappropriate transfusions. The most common hazards of transfusion identified were allergic and febrile non-haemolytic transfusion reactions. Refer to tables 5 for the summary of most serious hazards of transfusion per group and most common hazards of transfusion.

Groups discussed important actions that should be taken to introduce, maintain and improve haemovigilance systems. Groups agreed that government and senior hospital management support is a necessity for a successful haemovigilance programme. Policy and regulation is not in place in many countries. Hospital transfusion committees play a part in the chain of haemovigilance. Importance of quality data as well as the role of audits in haemovigilance was emphasised. Participants agreed that timely reporting

and publication of haemovigilance reports would improve haemovigilance systems. Training was discussed and it was suggested that haemovigilance should be included in curricula, training of doctors, nurses and midwives is necessary for them to recognise transfusion reactions. Innovative and novel ways of training health care workers should be pursued. Continuous medical education or continuous professional development (CME/ CPD) credits were proposed as a tool to encourage attendance at training sessions.

It was emphasised that there is an opportunity to share knowledge, and that there is no need to reinvent the wheel. The concept of a haemovigilance starter kit, where countries who wish to start a haemovigilance programme can obtain information, documentation templates was discussed. Lastly the ISBT academy is the educational arm of the ISBT and money is available to support educational activities such as haemovigilance.

## CONCLUSION

All groups agreed that haemovigilance is essential as well as an effective tool for improving transfusion safety. Currently there is diversity across the continent, and even within some countries regarding the stage of development of haemovigilance. There was commitment to work assiduously to improve haemovigilance on the continent.

**Table 6: Important actions to be taken to introduce, maintain and improve a haemovigilance system per group**

Group	Important actions to be taken to introduce, maintain and improve a haemovigilance system
1	<ul style="list-style-type: none"> <li>• Enhancement of a constant data collection and feedback system.</li> <li>• Setting up effectively performing HTC (Hospital Transfusion Committees).</li> <li>• Setting up centralized systems with regular supervision and mentorship of individual institutions.</li> <li>• Regular training followed supervision, mentorship and auditing of transfusing Health Facilities.</li> <li>• CME (Continuous Medical Education) on haemovigilance.</li> </ul>
2	<ul style="list-style-type: none"> <li>• Government and hospital commitment</li> <li>• Legislation and regulation</li> <li>• Implementation of an appropriate haemovigilance program (Hospital Transfusion Committee, collection, analysis and use of data)</li> <li>• Implementation of a Quality system</li> <li>• Collaboration between stakeholders</li> <li>• Training and sensitization of all stakeholders</li> </ul>
3	<ul style="list-style-type: none"> <li>• Establish and maintain robust structures at all levels, recruit and retain committed personnel and relevant stakeholders</li> <li>• Establish and maintain effective communication channels and encourage feedback</li> <li>• Entrench the culture for proper documentation and quality data collection</li> <li>• Plan and implement regular training based on feedback and communication</li> </ul>
4	<ul style="list-style-type: none"> <li>• Implementation of a national blood policy and regulatory framework</li> <li>• Availability of national standards covering haemovigilance</li> <li>• Improved awareness and innovative education of healthcare workers, especially nurses, through the use of webinars, podcasts, starter tool kits for haemovigilance and CPD points for attendance.</li> <li>• Effective hospital-based transfusion committees and appointed contact persons</li> <li>• Dedicated resources for dealing with haemovigilance at the blood service and the hospitals</li> <li>• Systems for collection and analysis of data, preferably on-line</li> <li>• Hospital audits</li> <li>• Laboratory tests to confirm reactions like TRALI</li> <li>• Publication and dissemination of reports</li> <li>• Sharing of information already developed</li> <li>• Asking ISBT Academy for support in arranging seminars and other educational events</li> <li>• Inclusion of haemovigilance in university medical curricula.</li> </ul>

Haemovigilance is the set of surveillance procedures covering the entire blood transfusion chain, from the donation and processing of blood and its components, through to their provision and transfusion to patients, and including their follow-up.

**- World Health Organization -**