TRANSFUSION AND BLOOD SAFETY IN INDONESIA

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OUTLINE

• Blood services in Indonesia
• Blood safety status
• Transfusion safety status
• Challenges
Whole blood donations per 1000 population, 2013

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Data Source: World Health Organization
Map Production: Blood Transfusion Safety (BTS)
World Health Organization
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Blood Donation in Indonesia 2015

Estimated Need: 5.1 million units
Blood Donation: 3.28 million units
Although patient safety is high on the healthcare agenda in many countries, adverse clinical events continue to be under-recognized and under-reported. Potential solutions to be under-researched and under-resourced.
Indonesia is the largest archipelago between Pacific and Indian oceans

Population 255 Million
13,000 Islands
34 Provinces
416 Districts
98 Municipalities
2,633 Hospitals
9,754 Primary Health Centers
Blood services in Indonesia

- The blood supply for hospitals is performed by blood centers that belong to Indonesian Red Cross, or government hospitals.
- The transfusion safety implementation varies around hospitals in the country.

Source: Ministry of Health of Indonesia
<table>
<thead>
<tr>
<th>Year</th>
<th>Total Donation</th>
<th>VNRD</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>2310721</td>
<td>1954600</td>
</tr>
<tr>
<td>2012</td>
<td>2538314</td>
<td>2121744</td>
</tr>
<tr>
<td>2013</td>
<td>2722758</td>
<td>2306707</td>
</tr>
<tr>
<td>2014</td>
<td>3054747</td>
<td>2633344</td>
</tr>
<tr>
<td>2015</td>
<td>3277426</td>
<td>2979778</td>
</tr>
</tbody>
</table>

Source: Ministry of Health of Indonesia
The national concern to Blood Safety

- Related to the risk of transfusion-transmissible infections is stated in the national blood transfusion standard for infectious disease screenings of HIV, hepatitis B, hepatitis C, syphilis, and malaria.

- The blood is collected mostly from voluntary, non-remunerated donors, but in some areas the replacement donors are also collected as well.
The methods used for the infectious screening varies between areas i.e. NAT, ChLIA, ELISA, and immunochromatography assay.

The national concern to Blood Safety

Source: Ministry of Health of Indonesia

Reactive donor blood screening 2014

<table>
<thead>
<tr>
<th>Test</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis B</td>
<td>1.52</td>
</tr>
<tr>
<td>Hepatitis C</td>
<td>0.4</td>
</tr>
<tr>
<td>HIV</td>
<td>0.26</td>
</tr>
<tr>
<td>Sifilis</td>
<td>0.86</td>
</tr>
</tbody>
</table>

Source: Ministry of Health of Indonesia
The Use of Blood in Hospital 2015

- Surgery: 18%
- Obstetric: 16%
- Internal Medicine: 37%
- Pediatric: 21%
- Others: 8%

Source: Ministry of Health of Indonesia
The risks of blood transfusion:

- Immune / serologic reaction
- Blood transmitted infections
- TRALI
- TACO
- GvHD
- Mistransfusion
HEMOVIGILANCE in Indonesia?

Surveillance of the whole blood transfusion chain (from patient to donor and back) with the main purpose to collect and assess information on undesirable effects of labile blood products and with the goal to improve the safety of blood transfusion.

de Vries, ISBT Science Series, 2009
In Indonesia:

The report of adverse reactions e.g. mistransfusions, mislabeling, wrong blood in tubes, wrong patient identification, and other types of incident are identified.
- National haemovigilance system is not yet held in Indonesia,
- Some tertiary hospitals collect their own data for patient safety interests
Transfusion Reactions in Referral Hospitals

<table>
<thead>
<tr>
<th>Hospital</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sardjito Yogyakarta</td>
<td>0.35</td>
</tr>
<tr>
<td>Sanglah Bali</td>
<td>0.22</td>
</tr>
<tr>
<td>Fatmawati Jakarta</td>
<td>1.07</td>
</tr>
<tr>
<td>Soetomo Surabaya</td>
<td>3</td>
</tr>
<tr>
<td>Kariadi Semarang</td>
<td>0.13</td>
</tr>
<tr>
<td>Hasan Sadikin Bandung</td>
<td>0.28</td>
</tr>
</tbody>
</table>
SHOT Recommendations

Learning from errors. No blame culture.
Training in blood administration should be implemented.
Hospital Transfusion Teams must be established and supported.
CHALLENGES

Improvements in the screening standard, national guidelines, policies and clinical practices, as well as haemovigilance system and organization of transfusion in hospitals are needed to increase transfusion safety in Indonesia.
THANK YOU