Noticing Errors in Blood Transfusion Prevents Harm to Patients

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Background
Serious Hazards of Transfusion (SHOT), the UK haemovigilance scheme, analyses reports of errors and reactions in transfusion. In both 2013 and 2014 SHOT reported 78% of cases involve errors. Human Factors is the scientific discipline concerned with how humans interact with other elements of a system and therefore how errors are made. Understanding Human Factors, in particular an appreciation of situational awareness, the comprehension of environmental elements, may improve transfusion safety.

Results
‘ Noticed/noticing’ was mentioned in 284/2346 (12.1%) reports:
- 166/284 positive noticing, associated with prevention of patient harm
- 118/284 failures to notice, associated with inappropriate management

Near miss incidents - incorrect management prevented (n=132):
- 105/132 positive noticing
- 27/132 failures to notice
  - 52/105 prevented incorrect transfusion
  - 4/52 prevented potential ABO incompatibilities

Actual incidents - incorrect management occurred (n=152):
- 61/152 positive noticing
- 91/152 failures to notice
  - too late to prevent patient harm

Figure 1:
Positive noticing appears more common in near miss incidents

Discussion and Conclusion
Not surprisingly, most error reports did not use the words ‘noticing/noticing’ (2026/2346), but when mention was made (284/2346), there seems to be a marked difference between the outcome of ‘noticing’ in near miss or actual incidents, though the sample size is small. Staff seemed to noticed errors more commonly in near miss cases and prevented unwanted outcomes. Where incorrect management actually took place, staff either noticed the error too late to prevent harm or failed to notice the error when they could or should have. ‘Noticing’ that something is not right, is an important aspect of situational awareness. This may often be perceived as simply a vague sense of unease. Encouraging staff to be aware of, and then to question, anything that appears to be unusual can prevent serious patient harm such as ABO incompatible or other inappropriate transfusions.

Method
Level 1 of situational awareness is perception, or ‘noticing’, so error reports from calendar year 2014 (n=2346) were searched for use of the words ‘noticing/noticing’.

These cases were analysed to determine if the mention of ‘noticed/noticing’ was positive, resulting in prevention of patient harm, or negative, with failures to notice the error being associated with inappropriate patient management.

Table 1: Summary of results for ‘noticing/noticing’

<table>
<thead>
<tr>
<th>SHOT reports that mention ‘noticing/noticing’</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive noticing</td>
<td>166</td>
</tr>
<tr>
<td>Failure to notice</td>
<td>118</td>
</tr>
<tr>
<td>No mention of ‘noticing/noticing’</td>
<td>2062</td>
</tr>
<tr>
<td>Total</td>
<td>2346</td>
</tr>
</tbody>
</table>

Table 2: Comparison of near miss and actual incidents

<table>
<thead>
<tr>
<th>‘Noticing/noticing’</th>
<th>Number of near miss incidents</th>
<th>Number of actual incidents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive noticing</td>
<td>105</td>
<td>61</td>
</tr>
<tr>
<td>Failure to notice</td>
<td>27</td>
<td>91</td>
</tr>
<tr>
<td>No mention of ‘noticing/noticing’</td>
<td>1035</td>
<td>1027</td>
</tr>
<tr>
<td>Total</td>
<td>1167</td>
<td>1179</td>
</tr>
</tbody>
</table>

Case Study: Nurse notices an unusual irradiation sticker

- A unit of irradiated platelets was taken to the ward. (Irradiation protects immunocompromised patients from transfusion-associated graft versus host disease)
- A nurse noticed the irradiation sticker on the component was still red and the word NOT was still visible
- These stickers are designed to become black and obscure the word NOT when fully irradiated.
- Although the component had been signed and dated as having been irradiated, the nurse contacted the laboratory to double-check
- The nurse was advised to return the unit as it had not been irradiated and thus prevented the patient receiving an incorrect unit

Recommendation
Encouraging a better understanding of situational awareness such as perception or ‘noticing’ would improve patient safety in transfusion.