Team Resuscitation Assessment for Pediatrics (TRAP): Application And Validation of a Pediatric Resuscitation Quality Instrument in Non-Simulated Resuscitations

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BACKGROUND

- Pediatric resuscitations are high-impact, low-frequency events
- Resuscitation tools have been developed and validated for the use in simulation
- The TRAP tool was developed from a validated simulation resuscitation tool for use in non-simulated resuscitations and has demonstrated content validity

RESULTS

- 24 of 51 resuscitations during the time period met inclusion criteria
- All 24 videos were scored for team communication, 9 for cardiac arrest and 20 for respiratory arrest
- Wide range of percent agreement from poor (<60%) to good (>80%) on individual items (see QR code for full tables)
- Kappa scores were overall poor

OBJECTIVE

- Determine inter-rater reliability of the TRAP tool for use in video-recorded, non-simulated resuscitations in the pediatric emergency department

METHODS

- Videos of medical resuscitations were collected and analyzed over a 6-month period
- Trauma resuscitations and resuscitations in rooms without recording ability were excluded
- Percent agreement and Fleiss’ Kappa were calculated in the 3 subcategories of the tool; cardiac arrest, respiratory arrest and team communication

CONCLUSIONS

- The TRAP tool did not show adequate inter-rater reliability when applied to video-recorded, non-simulated events

IMPLICATIONS

- Video-recording provides an opportunity to analyze team performance in resuscitations
- Resuscitation tools developed for the simulation lab may not perform well in non-simulated events and should be used with caution
- New assessment tools created specifically for non-simulated resuscitations need to be developed

Table 1: Total Percent Agreement and Fleiss’ Kappa for TRAP Subcategories

<table>
<thead>
<tr>
<th>TRAP Subcategory</th>
<th>Percent Agreement (%)</th>
<th>Fleiss’ Kappa</th>
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</thead>
<tbody>
<tr>
<td>Cardiac Arrest</td>
<td>68.0</td>
<td>0.41 (0.38-0.45)</td>
</tr>
<tr>
<td>Respiratory Arrest</td>
<td>72.7</td>
<td>0.36 (0.34-0.39)</td>
</tr>
<tr>
<td>Team Communication</td>
<td>74.9</td>
<td>0.17 (0.11-0.23)</td>
</tr>
</tbody>
</table>

Scan QR code for complete subcategory tables of percent agreement and Fleiss’ Kappa