Quality Improvement and Patient Safety

1787 'SKILLS AND DRILLS: STAFF TRAINING SESSIONS IN THE PAEDIATRIC EMERGENCY DEPARTMENT OF A MAJOR TRAUMA CENTRE

Michael Burns, Alice Taylor, Andrew Tester, Lailah Peel, David Baker, Dominique Kampman, Steve Foster. Royal Hospital for Children, Glasgow, UK

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Background
The Scottish Trauma Network (STN) was set up to form four new Major Trauma Centres across Scotland.

To prepare our paediatric ED for this a series of ‘Skills and Drills’ sessions were created by ED staff to cover a range of topics related to the practical care of a patient in a major trauma setting.

Objectives
The aim was to create safe, socially distanced teaching sessions with pre-reading materials that would enable staff to fulfil the Key Performance Indicators of a Major Trauma Centre in the midst of the global pandemic.

Methods
An initial six week pilot round of sessions was delivered and feedback sought from staff who had attended. This was taken into account and used to update the sessions.

Staff chose from a selection of specific words to describe the sessions and were encouraged to add their own words that they perceived to be relevant. A ‘word cloud’ was created that visually highlighted the most commonly selected words.

Staff were asked to provide a number out of 10 that described their knowledge of the topic covered in the session both before and after the session was delivered. Averages were then visualised in bar charts to represent the change in knowledge levels following sessions.

Results
A word cloud was created. The more times a word was chosen, the larger it was represented on the chart. Sessions were widely found to be practical, interactive and supportive.

Average values for self-estimated knowledge levels out of 10 were represented in bar charts and are shown:

Conclusions
Common descriptors of the sessions included: ‘practical’, ‘interactive’, and ‘informative’. This suggests that sessions reduced cognitive load leaving more time for staff to assess patients in front of them. The bar charts show a subjective estimation of increased knowledge in every topic covered during the sessions.

Given the positive responses prompted by these initial sessions, it is hoped that similar sessions may be delivered by other departments in the hospital. The success of these trial sessions is an example of the benefits of an interactive, structured, face to face teaching programme that is achievable within the current constraints of social distancing.

Association of Paediatric Emergency Medicine

1788 THE PEM SPECIALIST: APPLYING AND DEVELOPING THEIR UNIQUE SKILLSETS IN THE EARLY MANAGEMENT OF PIMS-TS

1 Susannah Pye, 2 Elise Randle, 2 Padmanabhan Ramnarayan. 1 Children’s Acute Transport Service; 2 Great Ormond Street Hospital

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Background
Between March 2020 and February 2021, 160 patients with acute covid infections and the associated paediatric inflammatory disorder, PIMS-TS, were transferred to paediatric intensive care units by the largest regional transport service in Europe.

Local paediatric emergency departments have become attuned to the presentation of these patients, implementing early monitoring, workup and treatment in line with evolving national guidance. We have identified there has been reduction in the time taken to identify PIMS-TS, to initiate treatments and referral to PICU transport teams, potentially improving patient outcomes.

The role and skillset of the PEM specialist is vital in providing early identification and management of this patient group. We make the case that point of care ultrasound

Abstract 1787 Table 1

<table>
<thead>
<tr>
<th>Pre-Alert</th>
<th>Airway Setup/RSI setup</th>
<th>Respiratory Support</th>
<th>Ventilator Major Haemorrhage Protocol</th>
<th>Patient Transfer onto bed</th>
<th>Patient Transfer from Resus</th>
<th>Haemorrhage Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge Level Before Teaching</td>
<td>5.9</td>
<td>5.7</td>
<td>5.6</td>
<td>7</td>
<td>3.5</td>
<td>4.5</td>
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<tr>
<td>Knowledge Level After Teaching</td>
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<td>8.4</td>
<td>8.4</td>
<td>8.5</td>
<td>6.8</td>
<td>8.1</td>
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</tbody>
</table>

Abstract 1787 Table 2

<table>
<thead>
<tr>
<th>Pre-Alert</th>
<th>Patient Transfer onto bed</th>
<th>Airway Setup and Respiratory Support</th>
<th>Ventilator use</th>
<th>Cardiac arrest and use of Defibrillator</th>
<th>Cardiac arrest and use of Defibrillator (repeat session)</th>
<th>Paediatric Emergency Drugs</th>
<th>Central venous access/IO access</th>
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</thead>
<tbody>
<tr>
<td>Knowledge Level Before Teaching</td>
<td>6.8</td>
<td>6.6</td>
<td>6.8</td>
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<td>5</td>
<td>7</td>
<td>5.7</td>
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<tr>
<td>Knowledge Level After Teaching</td>
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<td>8.7</td>
<td>7</td>
<td>7</td>
<td>7.9</td>
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scanning (POCUS) and applied PICU clinical skills make this a subset of specialists with potential to further improve PIMS-TS outcomes.

Objectives This retrospective review compares two cohorts of PIMS-TS patients, the first and second covid waves, who required transport to paediatric intensive care units (PICU). The objective is to:

1. Describe any differences in presenting phenotypes of the two cohorts
2. Review timeliness of investigations and treatment interventions
3. Analyse changes in patient outcomes
4. Highlight where further improvement could be made, specifically around hypotension assessment and management in paediatric ED

Methods A retrospective review was performed for all patients with suspected PIMS-TS and COVID-19 infection transferred to PICUs by the regional transport team between 1st March 2020 and 28th February 2021. A cross-reference of local hospital, CATS and PICU notes were used to obtain necessary clinical data. This service evaluation project was registered with the trust and local GDPR guidelines were followed.

Results Data analysis is ongoing. The following areas will be reported on:

<table>
<thead>
<tr>
<th>Signs, symptom &amp; clinical assessment</th>
<th>Interventions</th>
<th>Patient outcomes (PICU)</th>
<th>Incidental findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Patient demographics</td>
<td>- Presentation phenotype</td>
<td>- Length of PICU stay and total hospital LOS</td>
<td>- Arterial line placements at local hospital</td>
</tr>
<tr>
<td>- Management of hypotension</td>
<td>- Medications</td>
<td>- Duration of vasoactive agent support</td>
<td>- Choice of vasoactive agents + familiarity at local hospitals</td>
</tr>
</tbody>
</table>

Conclusions Data analysis is ongoing. Early findings suggest local hospitals are more familiar with the presenting features of PIMS-TS and the spectrum of conditions it has phenotypical overlap with. In the first wave there were delays in diagnosis, in the second wave there is a suggestion of potential over diagnosis - attention and caution around this is vital.

Teams were vigilant around hypotension, with early use of vasoactive agents rather than large fluid resuscitation volumes. The number of ECHOs (particularly POCUS assessments) performed increased guiding decisions around transfer and vasoactive choice.

Frontline PEM clinicians have an important skillset in early detection and management of PIMS-TS patients, especially those needing cardiovascular support. Applying POCUS training for clinical assessment of cardiac function and inserting peripheral arterial lines under local anaesthetic to obtain accurate BP recordings can guide prompt and appropriate treatment for patients with PIMS-TS. This has wider-reaching implications on PEM training and their evolving role within the paediatric service.