A Paediatric scenario in on call physiotherapy simulation training can improve self reported competency

Lock K., Clarke H., Burrell F., Berry M.
Background

• Qualified physiotherapists are expected to participate in respiratory on call services even if respiratory is not their chosen speciality.
• Respiratory on call services are for acutely unwell and deteriorating respiratory patients throughout the hospital setting, including paediatrics.
• Physiotherapists are responsible for maintaining their competency and undertaking any training they require.
Simulation based education

What is SBE?
• Creates guided experiences that mimic real-world processes or conditions to achieve educational goals
• DOH (2011) recommended simulation based education as a tool to enhance the growth and development of all staff

Keys to achieving goals
• Authenticity
• Realism
• Design & implementation
• Debriefing
• Evaluation
Educational Aim

1. Facilitate essential on-call competencies
2. Improve clinical reasoning skills
3. Improve patient safety

All On-call Physiotherapists at HHFT

Competency driven
- ACPRC
- CSP
- Local service needs

Simulation-based education (SBE) approach
- Simulated Patients
- Debriefing

Berry et al 2016
Educational Aim

• Berry et al 2016 concluded that simulation based training is associated with improved clinical reasoning and self-reported competency in the ability of physiotherapists to manage adult on call situations.

• They also noted that it would be beneficial to include a paediatric scenario.

• As a result it was decided that all future annual physiotherapy simulation training at HHFT would include adult and paediatric scenarios, as well as competency evaluation.
Method

- Physiotherapists attended a mandatory day of respiratory on call simulation based training.
- Groups of 5-6 therapists attended each session
- 2 adult and 1 paediatric scenarios
- The Association of Chartered Physiotherapists in Respiratory Care (ACPRC) on call competency questionnaire and Satisfaction with Simulation Experience Scale (SSES) were completed pre and post training
Simulation Training
- The paediatric scenario

It’s 22:00hrs on a Friday evening

The SpR on G2 ward calls you to request an assessment of Christopher Curtis, who was admitted 7 days ago with RSV+ bronchiolitis. Over the past few hours the patient has deteriorated. He has developed signs of respiratory distress, a new chest x-ray shows right sided white out. The registrar feels the patient has developed pneumonia and has commenced IV cefuroxime and is concerned the patient is at risk of further deterioration.
The paediatric scenario

• Telephone call placed to physiotherapist
• Physiotherapist attended to the patient
• Xray/obs chart/medical notes/nurse/equipment available
• Real time alterations to SIM baby’s observations depending on treatment technique used
• SHARP Debrief session
• Training needs met arising from debrief
Debrief

an interactive discussion or conversation to reflect on performance

Why?

• Critical part of experiential learning
• Experience is transformed into knowledge by reflection
• Evidence that without debriefing, learning or change does not occur (McGaghie et al, 2010)

SHARP Tool

A 5 step tool which allows debriefing in a time limited setting

1. Set learning objectives
2. How did it go?
3. Address concerns
4. Review learning points
5. Plan ahead
Results

• All post training ACPRC questionnaire scores had improved

• Non parametric Wilcoxon matched-pairs signed rank test used to analyse data

• 5 out of 10 questions showed an improvement with a significant p value

• SSES showed high satisfaction with SBE
Results: **ACPRC questionnaire**

<table>
<thead>
<tr>
<th>I feel able to perform a safe and effective assessment and treatment for babies or children</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Following cardiothoracic surgery</td>
<td>0.0938</td>
</tr>
<tr>
<td>On ventilators</td>
<td>0.1875</td>
</tr>
<tr>
<td>With chronic respiratory disease</td>
<td>0.0352</td>
</tr>
<tr>
<td><strong>With acute medical disease</strong></td>
<td><strong>0.0001</strong></td>
</tr>
<tr>
<td>With multiple trauma</td>
<td>0.0156</td>
</tr>
<tr>
<td>With unstable spine</td>
<td>0.1563</td>
</tr>
<tr>
<td>With raised head trauma/raised ICP</td>
<td>0.0313</td>
</tr>
<tr>
<td>Who are unstable</td>
<td>0.0078</td>
</tr>
<tr>
<td>With tracheostomy</td>
<td>0.2188</td>
</tr>
<tr>
<td>In ‘end of life’ situations</td>
<td>0.1250</td>
</tr>
</tbody>
</table>
I feel able to perform a safe and effective assessment and treatment for babies or children with acute medical disease

P value 0.0001
Participant comments

Clinical experience with real patients

Paeds, paeds, paeds (though I’m ok when I’m there)

Increased understanding of paeds normal observations

More acute respiratory paeds experience with paeds staff

Be exposed to more complex scenarios in the paediatric setting

Arrange with paediatrics practical experience

Learning Needs
SSES Results

- Facilitator feedback helped me develop my clinical reasoning skills
- SIM developed my clinical reasoning skills
- SIM caused me to reflect on my clinical ability

Andover War Memorial Hospital  Basingstoke and North Hampshire Hospital  Royal Hampshire County Hospital
Discussion points

- SIM training improved physiotherapists self reported competence with paediatric patients specifically those with acute medical disease.
- The choice of scenario is important.
- Vital to choose scenarios that are likely to present on HHFT paediatric wards.
- High satisfaction levels with SBE on call physiotherapy training.
- SBE education allows exposure to situations that may arise whilst on call, allowing mental rehearsal and normalisation.
Moving Forward

• Recently started cycle 2 of annual on call SIM training with a paediatric scenario
• New paediatric scenario based on a real patient case from HHFT
• My role continues to involve developing scenarios and facilitating SBE sessions
• ? Potential for creating income
• ? Develop SBE for paediatric physiotherapists
Any Questions?
References


• M Berry, F Burrell, RL Chapman, S Gough, S Ewings, D Thackray (2016). *Simulation-based training can improve on-call physiotherapists’ clinical reasoning abilities and self-reported competency*. Physiotherapy 102, e269-e270


