Sepsis Module: An Educational Tool for the Management of Sepsis

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Outline

• Background

• Educational Theory

• Pilot Data Results

• Discussion
Background

• There is a lack of comprehensive, multidisciplinary educational resources available to non-critical care personnel to help improve knowledge and practical management of sepsis.

• We recognize that non-critical care physicians, RNs and RTs are among the first healthcare professionals to encounter sepsis early in the presentation.

• There have been many new advances and evidence-based changes in the management of sepsis and its associated complications in the recent years (i.e. ‘2012 Surviving Sepsis Campaign’).
Education Theory

• **Education on sepsis guidelines** can improve performance and mortality $^{1,2,3,4}$

• **Interdisciplinary education** helps improve practice performance by enhanced mutual understanding, decrease errors and barriers to expedient care $^{5,6}$

• **Simulation-Based Medical Education** can create an arena for team-based learning through the recreation of real life clinical scenarios. Highly effective in resuscitation training $^{7,8}$
Methods

Pre-test → Lecture → RC-Sims → Hi-fidelity Sim → Post-test → RC-Sims

Sepsis: An Update on Pathophysiology, Diagnosis, & Management
Outcomes

• **Quantitative measures:**
  » Primary outcome was of knowledge transfer by use of a pre-test and post-test
  » Significance was analyzed by use of paired t-test

• **Qualitative measures:**
  » Self-assessment questionnaires were created for different CanMEDS roles and general value of the course
  » Scored by Likert scales and written comments
  » Major thematic clusters were evaluated
Results

<table>
<thead>
<tr>
<th></th>
<th>Pre-test</th>
<th>Post-test</th>
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<tbody>
<tr>
<td>Mean</td>
<td>75%</td>
<td>85%</td>
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<tr>
<td>p-value (paired t-test)</td>
<td>0.0001</td>
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Results were significant when analyzed between different specialties and training level
Theme: Clinical Preparedness

- Practical value in the education module as a self learning tool
- Communication with SBAR principle useful
- Mixture of lecture and practical simulation with direct feedback helpful in rapid knowledge gain and consolidation

“Really changes your knowledge and capabilities overnight. Would change the way I practice much faster than reading a textbook”
Theme: Improved Collaboration

- Collaboration between different specialties a welcome new experience
- Participants valued the interdisciplinary input and collaboration of the RTs and RNs

“The first valuable interprofessional designed arena that has been successful (that I have been a part of)”
8 Month Follow-up

- **Mean test score was 87.9%**
- “I have utilized the knowledge learned in the course in the past year”
  - 63% agree or strongly agree
- “During this past year, I have used the skills gained in the course to communicate effectively in crisis situations”
  - 72% agree or strongly agree
- “The experience of this course has allowed me to work more collaboratively in the past year”
  - 72% agree or strongly agree
Strengths

• High impact clinical entity known to be amenable to education.

• Brings together “high-fidelity” and “low-fidelity” simulation to allow advantages of both teaching models.

• Interprofessional and interdisciplinary model of teaching.

• No significant degradation of knowledge in follow-up.

• Applicable to wide range of training levels and specialty.

• Easily incorporated into simulation curriculum.
Limitations

• Sample Size
• Time limitation
  » Pilot study does not allow for prolonged deliberate practice
• Kirkpatrick level 2
Current Progress

• Sim-One / Canadian Patient Safety Institute funded study in a community hospital
• Database of sepsis performance markers and outcomes in sepsis patients
• 13 MDs (along with 8 RNs, RTs) have gone through the module so far. Will be able to follow short term performance and outcome per MD.
Thank you

• Questions?

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References


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