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Ethical Reasoning Development through Disaster Simulation: SoTL in a Simulation Laboratory.

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Ethical Reasoning Development through Disaster Simulation: SoTL in a Simulation Laboratory

Erika Metzler Sawin PhD, RN
Sara Greco BSN, RN, Julie Sanford DNP, Erica Lewis PhD, RN & Alison Ames, PhD

First iteration funded by James Madison University Madison Collaborative
By the end of this presentation, you should be able to:

• Describe the use of a disaster simulation for teaching undergraduate nursing students disaster nursing concepts
• Describe the use of a disaster simulation for teaching undergraduate nursing students disaster ethical reasoning
• Discuss application of SoTL practice in the simulation laboratory setting
• Discuss incorporation of university-wide objectives into a SoTL research project
• Examine student role in SoTL research initiatives
SoTL PROJECT BACKGROUND

• Foundational elements for SoTL project:

  • Shared faculty/student interest in disaster nursing
  • Opportunity: International Network of Universities – Disaster Nursing Workshop in Hiroshima Japan
  • BSN Student: Senior Honors Capstone project
  • Engaged Teacher Scholar Program – Center for Faculty Innovation
  • Faculty willingness to pilot
BACKGROUND: DISASTERS and SIMULATION

- The nature of disasters are unpredictable but inevitable. Yet, disaster preparedness education is scarce in nursing curriculums.
- Dichotomy of routine and disaster nursing is a cause for ethical dilemmas and moral distress.
- Simulations are a powerful learning tool, but little research has been done on the outcome of simulations on nursing students attitudes towards ethical reasoning.

Fletcher, Justice, & Rohrig, 2015; Schmidt et al., 2011; Veenema et al., 2016
Nursing Role and Disasters:

Nurses have an important role in disaster preparedness and preparation.

• Individual patient/ family care coordination
• Can be part of a multidisciplinary response team
• Triage - individual and population levels
• Epidemiology and rapid surveillance
• Community needs assessment
• Disaster communication response ethics
• Sheltering of individuals and families

(Stanley, Farra, & Hassmiller, 2016)
BACKGROUND: CURRICULUM OVERVIEW

- BSN students
- Community Health Course
- Prerequisites:
  - Adult Health (2 sem.)
  - Gerontology content
  - Psychiatric/Mental Health
  - Women’s Health
  - Pediatrics - coreq
STUDY AIM

• To investigate how a disaster nursing simulation affected nursing students’ perceived ethical reasoning confidence.

• Utilize a structured debriefing session that utilized the Madison Collaborative’s Eight Key Questions as a framework for ethical reasoning.

• Explore the effect of the intervention on students’ perceived importance of ethical reasoning and students’ perceptions of the Eight Key Question Ethical Reasoning Framework.

• Participants’ attitudes towards ethical reasoning were measured before and after the exercise.
Research Questions

1. How do disaster nursing simulations affect nursing students’ perceived ethical reasoning confidence?

1. How do disaster nursing simulations affect nursing students’ perceived importance of ethical reasoning?

1. How does application of the Eight Key Questions to ethical dilemmas faced in the disaster scenario affect nursing students’ outlook on The Eight Key Questions Ethical Reasoning Framework?
SUMULATION in NURSING: QUICK ORIENTATION

• Pre-class: Readings
• Pre-briefing
• Simulation
  • lasted 15 minutes
  • Developed using INACSL standards
• Debriefing
Methods:
The Design, Sample, and Instrument

- Design: Pre/post survey
- Sample: Total of 90 students. 16 third-semester BSN students Fall 2015; 74 Spring 2016
- Instrument: Survey of Ethical Reasoning
- Debriefing: JMU Eight Key Questions
- Approved by James Madison University Institutional Review Board
A train derailment has caused a toxic chemical spill in the neighborhood of Harrisonburg, VA.

A group of nursing students on their way to clinical are the first to witness and respond to the disaster.

- 9 victims of the crash who are experiencing varying degrees of injury.
- Biochemical waste being carried on the train is no longer contained and poses a threat to individual and environmental health.
- Available resources are limited to the basic assessment and first aid supplies students have on hand for their day of clinical.
- It is expected to be approximately 30 minutes before additional help can arrive.
SIMULATION SPECIFICS

• S.T.A.R.T. Triage System
• Victim profiles
  • 2 Fatalities (Mannequins)
  • 1 Critical Care Pediatric Patient (Sim Baby)
  • 1 Stable but Pregnant (Term) Mother
  • 5 Standardized Patients (SPs) with varying degrees of injuries (Actors)
• One of the SPs will not speak English
• Multiple age groups represented
We are grateful to: Lauren Mullen (Sim Lab Director), Brandi Burkhart (Sim Lab Manager), Rebecca Beam (SP Coordinator), and Nathan Spencer (Lab Tech), as well as the Standardized Patients
Table 1. Nursing Students’ Rank of Ethical Reasoning Importance Pre and Post Simulation

<table>
<thead>
<tr>
<th></th>
<th>Pre-Simulation Median Rank</th>
<th>Post Simulation Median Rank</th>
<th>Wilcoxon signed-rank test (Z)</th>
<th>Significance (P)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Artistic Skills</td>
<td>4.0</td>
<td>2.0</td>
<td>-4.955</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>2. Budgeting Skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3. Critical Thinking Skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>4. Ethical Reasoning Skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>5. Interpersonal Skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>6. Oral Communication Skills</td>
<td></td>
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<tr>
<td>7. Organization Skills</td>
<td></td>
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<tr>
<td>8. Programming Skills</td>
<td></td>
<td></td>
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<tr>
<td>9. Time-management Skills</td>
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<tr>
<td>10. Writing Skills</td>
<td></td>
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</tbody>
</table>
Table 2. Nursing Students’ Mean Confidence and Importance Subscale Scores Pre and Post Simulation

<table>
<thead>
<tr>
<th></th>
<th>Pre-Simulation Mean Score</th>
<th>Post Simulation Mean Score</th>
<th>T-Test</th>
<th>Significance (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Importance</td>
<td>4.70</td>
<td>4.85</td>
<td>-2.832</td>
<td>0.006</td>
</tr>
<tr>
<td>Confidence</td>
<td>4.08</td>
<td>4.46</td>
<td>-6.609</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

*N = 90
## Results: SER Part 2B

### Self-Reported Abilities to use the Eight Key Questions

<table>
<thead>
<tr>
<th>Task</th>
<th>Wilcoxon signed rank (Z)</th>
<th>Significance (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I can state from memory the 8KQ of ethical reasoning</td>
<td>-6.748</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>When faced with an ethical situation, I can correctly identify the most relevant KQ</td>
<td>-5.820</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>I can weigh and balance the relevant KQ to make an informed decision</td>
<td>-5.613</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>I can apply the 8KQ ethical reasoning framework to aspects of my personal life</td>
<td>-4.887</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>I can apply the 8KQ ethical reasoning framework to aspects of my professional life</td>
<td>-5.112</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>I can apply the 8KQ ethical reasoning framework to aspects of my civic life</td>
<td>-4.720</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>
**Fairness**: How can I act equitably and balance all interests?

**Outcomes**: What are the short-term and long-term outcomes of possible actions?

**Rights**: What innate, legal, and social rights apply?

**Character**: What actions will help me become my ideal self?

**Liberty**: What principles of freedom and personal autonomy apply?

**Empathy**: How would I respond if I cared deeply about those involved?

**Authority**: What do legitimate authorities expect of me?

**Responsibilities**: What duties and obligations apply?
Methods: Debriefing Design

• Personal Reflection:
  • Each student identifies an ethical dilemma from the simulation

• Group Reflection:
  • Students share the ethical dilemmas they experienced

• Application of Eight Key Questions:
  • Students collectively choose one of the ethical decisions they made, and discuss how the 8 Key Questions could have informed your decision.

• Practice/role playing:
  • Discuss how the Eight Key Questions can be used to guide ethical decisions in the future

• Discuss application to professional and personal lives
Discussion

• Conclusions
  • Increased ethical reasoning confidence and perceived importance of ethical reasoning show in one or more sections of SER
  • Positive reception of Eight Key Question Ethical Reasoning Framework

• Limitations
  • Non-random selection
  • Uncertainty of lasting benefit
  • Students prior exposure to 8KQ

• Recommendations
  • Interdisciplinary simulation with other healthcare majors
  • Compare to other ethical construct surveys
  • Measure change over time
  • Incorporate moral distress component to the study
  • Consider a conflict resolution component to alleviate moral distress?
DISCUSSION

- Increased evidence for simulation as a tool for development of ethical reasoning development
- Incorporation/application of ethical reasoning into their future patient care
- Concern: Will students experience moral distress without skills to implement their ethically based decisions?
  - Faculty facilitated and role played hypothetical conversations
  - Students described conversations necessary for implementation of decision
  - Described clear communication strategies
SoTL/ Project Challenges

- Integrating with Simulation Lab schedules
- Conforming to student academic schedule
- Sustainability
- Community Health Instructor considerations
  - Disaster education preparation
  - Debriefing skills
ACKNOWLEDGEMENTS

• Madison Collaborative
• The Center of Assessment and Research Development
• JMU School of Nursing – Simulation Director and staff
• International Network of Universities – 2015 Workshop on Global Health and Nursing
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References


