Disaster Simulation’s Impact on Self-Efficacy in Clinical Decision-Making

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Background

- Nursing graduates feel unprepared (Duchscher, 2009)
- Nursing schools are unable to meet the demand (AACN, 2017)
- A disaster-based simulation can improve senior nursing students’ self-efficacy in making right management decisions when faced with a difficult case
- Hypothesis: There will be a gain in self-efficacy scores for senior students post-disaster simulation
Purpose

Examine the impact on self-efficacy scores pre- and post-disaster-based simulation at a multistate university.
Method

Quantitative non-experimental retrospective descriptive pre-/post-test design:

- Purposive Sampling; non-probability
  - One group pre-/post-test study
Simulation Scenario

Severe tornado:
- Several casualties
- Victims need to be triaged
- First Aid supplies are available
Instrument

General Nursing Self-efficacy Scale (2015):

• Modification of the General Pediatric Self-efficacy Scale (GPedsSE), which was based on the new General Self-efficacy Scale

• General Pediatrics-specific Self-efficacy (GPedsSE) Scale, \( (r = 0.54, p < 0.005) \)
Results

Nine of the pre-simulation survey responses were “Uncertain” or “Strongly Agree”

- No statistically significant difference in scores for survey questions 1 through 11 (p=0.2 to p=1.0)
- Slight increase in response following training for question 9, “I will know when it is time to refer a problem to a practitioner,” (p=0.06)
Results

Statistical significance noted to Question 12 following training, “In a general patient context, when facing a difficult case, I am certain I can make the right management decisions,” (p=0.008).
Question 12: In a general patient context, when facing a difficult case, I am certain I can make the right management decisions.

<table>
<thead>
<tr>
<th>Time</th>
<th>Range</th>
<th>Median (IQR)</th>
<th>Mean ± SD</th>
<th>Wilcoxon signed rank p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-simulation</td>
<td>3-5</td>
<td>4 [4,5]</td>
<td>4.57 ± 0.71</td>
<td>0.008</td>
</tr>
<tr>
<td>Post-simulation</td>
<td>4-5</td>
<td>5 [4,5]</td>
<td>4.70 ± 0.47</td>
<td></td>
</tr>
</tbody>
</table>

Post-simulation: Agree

| Pre-simulation: Uncertain | 3 (13%) | 0 (0%) |
| Pre-simulation: Agree    | 4 (17%) | 5 (22%) |
| Pre-simulation: Strongly Agree | 0 (0%) | 11 (48%) |
Question 12: In a general patient context, when facing a difficult case, I am certain I can make the right management decisions.
Limitations

• Difficulty recruiting participants
  – Lack of full engagement

• Pre-exposure to simulation
  – Students sharing information

• Hawthorne effect
Important Findings

- Disaster-based scenario may be used to improve self-efficacy in clinical decision-making

- Repetitive exposure is beneficial
  - Mastery of skills
  - Confidence

- Simulation provides adequate learning experiences equivalent to traditional clinical
Future Recommendations

• What is the impact on senior nursing students?
• Mandatory participation
• General Nursing Self-efficacy Scale
• Explore the simulation’s use all level of students and of nursing courses
Questions
References


References


References


