Rubric-based debriefing enhances nursing student’s critical thinking in simulation learning

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BACKGROUND

• Simulation-based learning has been incorporated into medical and nursing education in last decade, by providing a platform for students to amplify real experiences.
• Simulation-based learning provides a platform for students to amplify real experiences in a systematic and interactive manner and develop their knowledge and skills while protecting patients from unnecessary risks.
• Debriefing plays a vital role in ensuring effective simulation-based learning by serving as a reflective learning step to foster students’ development of critical thinking.

AIMS

• To evaluate the effects of rubric-based debriefing on students’ critical thinking and level of confidence in performing tasks and communication.

RESULTS

Participant’s characteristics (n=204):

• Majority of the nursing students were female (n = 153, 74.5%)
• Majority of them had working experiences as part-time nursing staff (n=173, 84.8%)
• Around 25% had received basic life support training

Quantitative Results

• Generalized estimating equation models for primary and secondary outcomes (n=204)

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Control</th>
<th>Time 2 – Time 1 (time)</th>
<th>Intervention – Control (group)</th>
<th>Intervention – Control (time x group)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean (SE)</td>
<td>Mean (SE)</td>
<td>Estimated effect (95% CI)</td>
<td>Estimated effect (95% CI)</td>
<td>Estimated effect (95% CI)</td>
</tr>
<tr>
<td>NEIU Critical Thinking Rubric score</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Time 1 (Case Scenario 1)</td>
<td>10.31 (1.18)</td>
<td>10.44 (1.18)</td>
<td>0.13 (0.36)</td>
<td>0.20 (0.50)</td>
</tr>
<tr>
<td>Time 2 (Case Scenario 2)</td>
<td>12.87 (1.27)</td>
<td>10.95 (1.21)</td>
<td>2.57* (1.77, 3.36)</td>
<td>1.92* (1.00, 2.85)</td>
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</tbody>
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<tr>
<th>Confidence in performing tasks</th>
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<tr>
<td>Time 1 (Pre-test)</td>
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<td>Time 2 (Post-test)</td>
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METHODS

• A quasi-experimental design
• A class of final year nursing undergraduates (n=204) participated.
• Students in both the intervention and control groups performed two 20-minute simulation sessions individually with simulated patients.
• A 15-minute individual rubric-based debriefing between the two sessions was done in the intervention group.
• The rubric was developed by the Northeastern Illinois University (NEIU) Center for Teaching and Learning.
• The rubric assesses 6 dimensions with the following criteria: (1) Issues; (2) Context; (3) Perspectives; (4) Assumptions; (5) Evidence; (6) Implications.

Qualitative Results

Categories | Qualitative data
---|---
Benefits of simulated activities | • improve my knowledge
• very helpful
• can learn without stress
• enable us to know more about our ability when facing the real situation
• very realistic

Time arrangement on simulation activities | • allow more time for debriefing and discussion
• allow more time for students to assess and evaluate themselves for any missed points
• allow more time for each simulation task and debriefing
• more orientation for the room setting (including equipment and assessment form)

Future improvement for simulation activities | • more stimulation exercises would better improve skills
• organize more simulation activities
• include medical students or simulated physicians
• add more problematic and difficult acts from simulated patients
• the scenario can be more difficult

CONCLUSIONS

• This study provides evidence that a 15-minute debriefing after a simulation activity is beneficial in enhancing students’ critical thinking.
• The qualitative findings demonstrated the feasibility and benefits of conducting rubric-based debriefing in simulation education.

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