An Interprofessional Approach to Teaching Advanced Cardiac Life Support to Pharmacy and Nursing Students

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BACKGROUND

Importance of Advanced Cardiac Life Support (ACLS) Guideline Knowledge
- The ability to recognize, perform the necessary skills, and critically reason during a cardiac arrest situation is an essential piece of education for healthcare students1

Benefits of Interprofessional Learning
- Codes in the clinical setting involve more than a single discipline, therefore students should be prepared to work with other health disciplines in these situations
- A stronger healthcare teamwork model is needed with the increasing complexity of the healthcare system, practice guidelines, and informatics2

Value of Simulations
- Simulations allow students to react to hospital based scenario and practice using knowledge and skills learned through lecture, allowing for growth of critical thinking2
- The best results for teaching students about code situations is with current evidence based on guidelines, using simulation of a hospital cardiac arrest scenario and in conjunction with a formal assessment2

OBJECTIVES

- To evaluate the effects of interprofessional ACLS training on pharmacy and nursing students’ knowledge and attitudes

METHODS

Study Participants
- Third year professional pharmacy students (N=28)
- Senior nursing students (N=41)

ACLS Training Session
- Goal of the session was to familiarize students with the American Heart Association (AHA) ACLS guidelines, algorithms, and skills used during a cardiac arrest in a hospital
- The training unit consisted of a lecture, skills workshop, demonstrations, and simulations using hospital-based scenarios
  - Students worked through a series of mock scenarios followed by debriefing sessions
  - One mock scenario highlighted code contributions unique to pharmacists and nurses. This scenario included IV incompatibility issues featuring a more medically-complex patient

Surveys
- Pre-survey
  - Administered during the first 15 minutes of the ACLS seminar
  - 9 items, demographic and Likert-type questions
- Post-survey
  - Administered at the completion of each interprofessional simulation training session
  - 14 items, Likert-type questions

Analysis
- Analyses performed in SPSS v.23 (Armonk, NY)
- Descriptive statistics on pre- and post-survey
- Pre-post changes evaluated by Mann-Whitney U test

RESULTS

Have you ever participated in a live or simulated code through work, school, or an extracurricular activity?

After participating in the high-fidelity simulations, how confident would you be in a real-life code scenario?

Participants

I would rate my knowledge of the ACLS guidelines as:

Pre- and Post-Training Session Comparisons

<table>
<thead>
<tr>
<th>Item</th>
<th>Pre Mean ± SD</th>
<th>Post Mean ± SD</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simulator-based cardiac life support adds value to my training.</td>
<td>1.38 ± 0.517</td>
<td>1.21 ± 0.414</td>
<td>0.067</td>
</tr>
<tr>
<td>I believe that interprofessional education is valuable to my training.</td>
<td>1.52 ± 0.532</td>
<td>1.29 ± 0.458</td>
<td>0.014</td>
</tr>
<tr>
<td>I have an understanding of each healthcare provider’s role in a cardiac life support scenario.</td>
<td>2.41 ± 0.652</td>
<td>1.62 ± 0.527</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>(Pharmacy) I feel comfortable working with nurses in a cardiac arrest scenario.</td>
<td>2.11 ± 0.641</td>
<td>1.25 ± 0.440</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>(Nursing) I feel comfortable working with pharmacists in a cardiac arrest scenario.</td>
<td>2.59 ± 0.591</td>
<td>1.50 ± 0.511</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Additional Post-Survey Results

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean ± SD</th>
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</thead>
<tbody>
<tr>
<td>(Nursing) This interprofessional experience has provided me with a greater understanding of the role of the pharmacist as part of the code team.</td>
<td>1.50 ± 0.722</td>
</tr>
<tr>
<td>(Pharmacy) This interprofessional experience has provided me with a greater understanding of the role of the nurse as part of the code team.</td>
<td>2.00 ± 1.176</td>
</tr>
<tr>
<td>The ACLS training unit was valuable to my education.</td>
<td>2.09 ± 1.822</td>
</tr>
<tr>
<td>Simulator-based cardiac life support adds value to my training.</td>
<td>1.21 ± 0.414</td>
</tr>
<tr>
<td>The interprofessional component of the ACLS training unit was valuable to my education.</td>
<td>2.38 ± 1.920</td>
</tr>
</tbody>
</table>

DISCUSSION AND CONCLUSIONS

Discussion
- An interprofessional ACLS training session is an effective way to improve nursing and pharmacy students’ attitudes towards working interprofessionally in a cardiac life support situation.
- Students felt that they gained a better understanding of each provider’s role in a code and felt more comfortable working with other professions following the training module.
- Students rated their knowledge of the ACLS guidelines as weaker at the end of the ACLS training unit, which may be due to the students realizing that they are not as prepared as they should be for a code situation.

Implications
- Interprofessional ACLS training should be incorporated into nursing and pharmacy school curriculum where possible and can serve as an effective method of encouraging collaboration amongst healthcare professionals.
- Future studies are necessary to track long-term changes in attitude and behavioral changes following this interprofessional training unit.

REFERENCES


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