The impact of interdisciplinary code simulation on perceptions of collaboration and team performance among internal medicine residents and nursing students

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Study Sample Demographics

<table>
<thead>
<tr>
<th>Data</th>
<th>Mean Score Before First Debrief</th>
<th>Mean Score After First Debrief</th>
<th>Mean Score Before Second Debrief</th>
<th>Mean Score After Second Debrief</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>JSA</strong></td>
<td>M=3.57 SD=0.23</td>
<td>M=3.62 SD=0.23</td>
<td>M=3.64 SD=0.25</td>
<td>M=3.68 SD=0.24</td>
</tr>
<tr>
<td><strong>MHPTS</strong></td>
<td>M=2.27 SD=0.38</td>
<td>M=2.27 SD=0.43</td>
<td>M=2.53 SD=0.34</td>
<td>M=2.60 SD=0.37</td>
</tr>
</tbody>
</table>

Simulation

• Allows for inter-disciplinary training
• Provides safe environment to practice patient care with immediate feedback → quality improvement
• Results in better adherence to protocols
• Well received by learners
• In one study, almost half of IM residents surveyed felt ill-equipped to lead code teams even after ACLS training

Crisis Resource Management (CRM)

• Communication and cooperation
• Leadership and management
• Situational awareness
• Decision-making

CRS Resource Management (CRM)

• Equipped to lead code teams even after ACLS training

Methods

Data Collection

• Participants completed two instruments before and after each debriefing (total 4 times)
• Mayo High Performance Teamwork Scale (MHPTS)4
• 1=never or rarely, 2=inconsistently, 3=consistently
• Jefferson Scale of Attitudes toward Physician-Nurse Collaboration (JSA)5
• 4=strongly agree, 3=agree, 2=disagree, 1=strongly disagree

Statistical Analysis

• Repeated measures analysis of variance (RM ANOVA) was used to compare responses over time
• All assumptions were met, no outliers detected, scales demonstrated adequate internal consistency reliability coefficients

Results

Conclusions

• Mean scores on both scales increased
• Significant changes in attitudes about collaborative education were seen immediately and persisted
• Perceptions of team performance were significantly enhanced only after the second code and debriefing, suggesting this change occurs more slowly than attitudes about collaboration
• Interdisciplinary code simulation and CRM-focused debriefing is an important tool fostering physician-nurse relationships and teamwork
• Limitations include difficulty with generalizability given convenience sample at one site, lack of control group, two sampling time frames
• Future analyses: objective evaluation of team performance and correlation with ACLS algorithm adherence

References


Background

Research Question

Does interdisciplinary code simulation with CRM-guided debriefing change resident and nursing student perceptions about collaborative education and team performance?

Participants

• PGY2 Internal Medicine Residents
• 2nd and 4th semester nursing students
• High fidelity simulation education activities - 2010 and 2011
• Resuscitation team = 1 resident leader with 4-8 students
• All participants could confidentially decline consent for use of their data

Intervention Design

• Each “resuscitation team” participated in 2 simulated emergency scenarios (lasting ~20 minutes)
• PEA
• Ventricular fibrillation
• Option for resuscitation failure in the setting of significant algorithm non-adherence
• Video guided debriefing (emphasizing CRM principles) with faculty followed each scenario