Resident Perception of Clinical Benefit and Educational Value of a Novel Low-Fidelity Simulation Curriculum

A Mitsakos, MD; N Garcia, MD; S Quinn, MD; A Wercholuk, MD; W Irish, PhD; D Walsh, MD; C Haisch, MD

INTRODUCTION

- Low-fidelity simulation methods have emerged as a novel and low-cost way of developing operative skills using reproducible models made of simple materials. Perception of such educational methods by residents is questionable.

- **Primary aim of this study** was:
  1. To assess the perception of clinical benefit and educational value of a low-fidelity simulation curriculum by surgery residents.
  2. To evaluate potential differences between junior and senior residents.

MATERIALS AND METHODS

- Pilot low-fidelity simulation curriculum at East Carolina University Surgery Residency
- Questionnaire survey
  ✓ 12 simulation sessions
  ✓ Academic year 2021-2022
  ✓ ~25 surgery residents involved in each session
- <5$ expenses per resident per session

- 5-point Likert scale
  ➢ Significance of simulation training for daily clinical practice
  ➢ Educational value

- Comparison of Likert-scale evaluation between junior (R1, R2, R3) and senior (Research, R4, R5) residents

RESULTS

- Average number of junior residents per session – 15.1
- Average number of senior residents per session – 8.3
- Significance for daily clinical practice and educational value rated >4.5 by both junior and senior residents
- Statistically significant higher rating of both components by junior residents in comparison to senior residents (p=0.02)

<table>
<thead>
<tr>
<th>Median (25th-75th Percentile)</th>
<th>Junior Residents</th>
<th>Senior Residents</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significance for daily clinical practice</td>
<td>4.92 (4.68-5.00)</td>
<td>4.54 (4.44-4.67)</td>
<td>0.02</td>
</tr>
<tr>
<td>Significance of educational value of simulation</td>
<td>4.97 (4.81-5.00)</td>
<td>4.73 (4.56-4.81)</td>
<td>0.02</td>
</tr>
</tbody>
</table>

CONCLUSIONS

- Low-fidelity simulation training is an important low-cost component of surgery residency education.
- **Its significance in daily clinical practice, as well as its educational value, is highly perceived by residents in all years of training, with a potentially larger benefit for those in earlier years of training.**