

THE PERCEIVED VALUE OF JUST-IN-TIME IN-SITU SIMULATION TRAINING AS A PREPAREDNESS MEASURE FOR THE PERIOPERATIVE CARE OF COVID-19 PATIENTS

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Improvement

INTRODUCTION

In anticipation of a surge of COVID-19 patients, the rapid redesign of workflow processes was required to prepare staff to safely care for COVID-19 patients within the perioperative setting.

Just-in-time training (JIT)¹, an educational technique known to promote confidence in performing specific tasks, was then delivered through **in-situ simulation** to facilitate implementation and training of these new workflows.

METHODS

Simulation scenario development focused on minimizing viral exposure and transmission risk in the perioperative setting. Rapidly delivered to all perioperative staff, including anaesthesia, nursing and surgery within the theatres they usually work (*in-situ*).

Simulation scenario content:

- **Donning & doffing of personal protective equipment**
- **COVID-19 specific pre-operative huddle**
- **Transferring a COVID-19 patient from the ICU to the operating room**
- **Using enhanced infection control measures when intubating or extubating**

Implementation:

- Over 3 weeks, training sessions delivered up to twelve times per day
- Total of 428 perioperative staff members within our healthcare network.

Evaluation:

- **Post-simulation survey** (Likert scale assessments) and analysis of free text responses, to assess perceived value of JIT training
- **Identification of hazards** and gaps in care performed through focused debriefing
- Continuous **rapid cycles of iterative change** refined our perioperative workflows, to safely manage over 100 COVID-19 patients who required emergency surgery in our organization.

RESULTS

Post-simulation survey responses (110 participants):

- Shifts in positive outcomes along the Likert scale (Figure 1A-D, red)
 - **Knowledge of new workflow processes**
 - **Comfort in adopting them in practice** (all p-values < 0.00001).
- For all simulation scenarios (Figure 1E)
 - >90% of agreed/strongly agreed JIT training would impact future practice
- Free text: reflected recognition and appreciation of the **timeliness** of training, the "hands-on" nature of in-situ simulation, **the inter-professional collaboration** and **leadership support**.

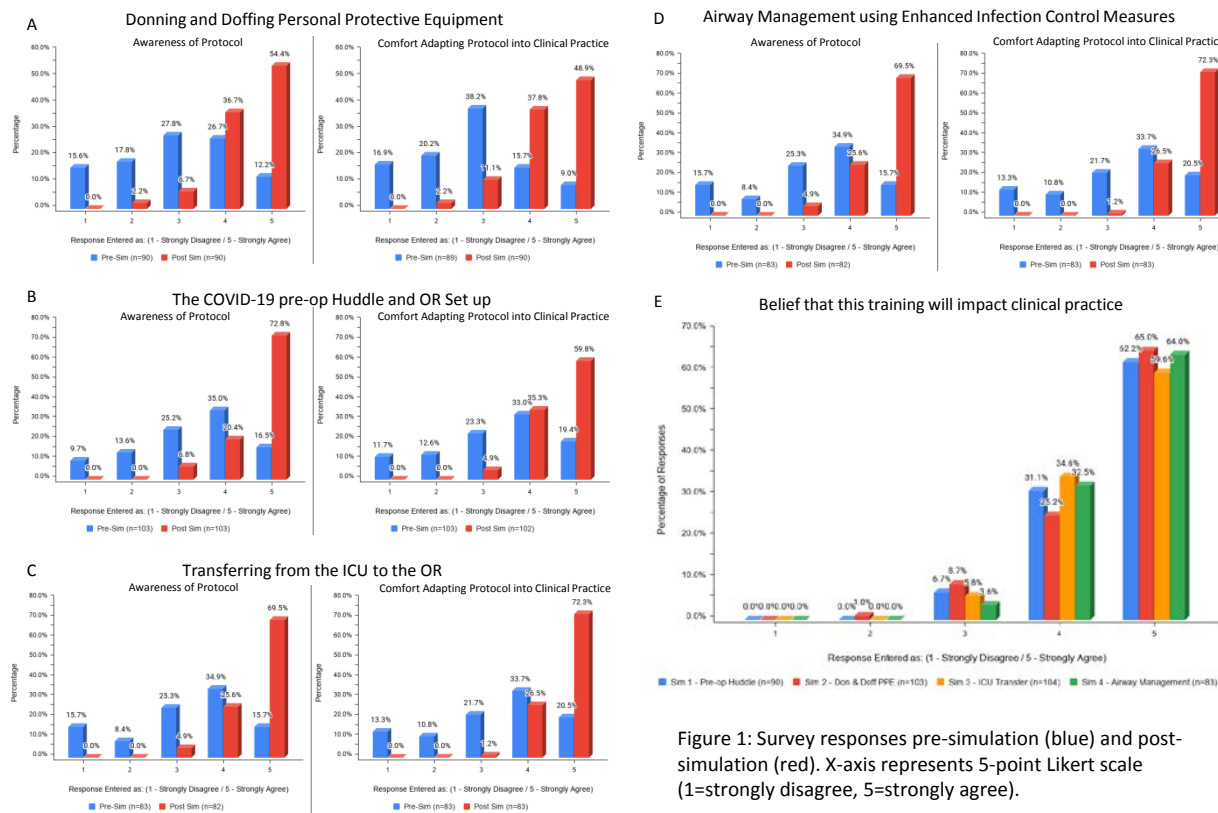


Figure 1: Survey responses pre-simulation (blue) and post-simulation (red). X-axis represents 5-point Likert scale (1=strongly disagree, 5=strongly agree).

DISCUSSION

The reported perceived value of **JIT in-situ simulation training** as a preparedness measure for the perioperative care of COVID-19 patients demonstrates this approach is a notable training method during a time of crisis.

REFERENCES

1. Aggarwal R. Just-in-time simulation-based training. *BMJ Qual Saf*