

Simulation Participation in Pediatric Cardiac Intensive Care Nurse Practitioners

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INTRODUCTION

Benefits of medical simulation are well documented in populations such as medical residents, nursing students, and practicing nurses^{5,11}. Benefits include increased feelings of confidence, teamwork, and leadership skills^{4,6,13}

Problem

Lack of NP participation in the simulation curriculum in the PCICU at Vanderbilt

Team Members

Kelly Craighead: team lead, Sofia Mendieta: critical care fellow and team member, Isaura Diaz: attending and supervising physician,

Aim

Improve NP participation in simulation in the PCICU from no participation at the beginning of the cycle (9/2022) to 50% of group members participating in simulation over the course of four months (12/2022)

METHODS

Plan

Meet with project team members

Create a survey to obtain demographic data as well as assess comfort level utilizing a Likert scale ranging from 1 to 10 which 1 representing very uncomfortable and 10 being very comfortable for participants to complete prior to simulation

Do

Present project at monthly NP meeting

Distribute pre-simulation survey

Encourage participation at simulation experiences via texts, emails and verbal reminders

Obtain post-simulation data survey with same Likert scale to assess post simulation participation comfort level

Study

Compare the pre-simulation survey results to post-simulation results

Assess change for statistical significance

Obtain participant feedback

Act

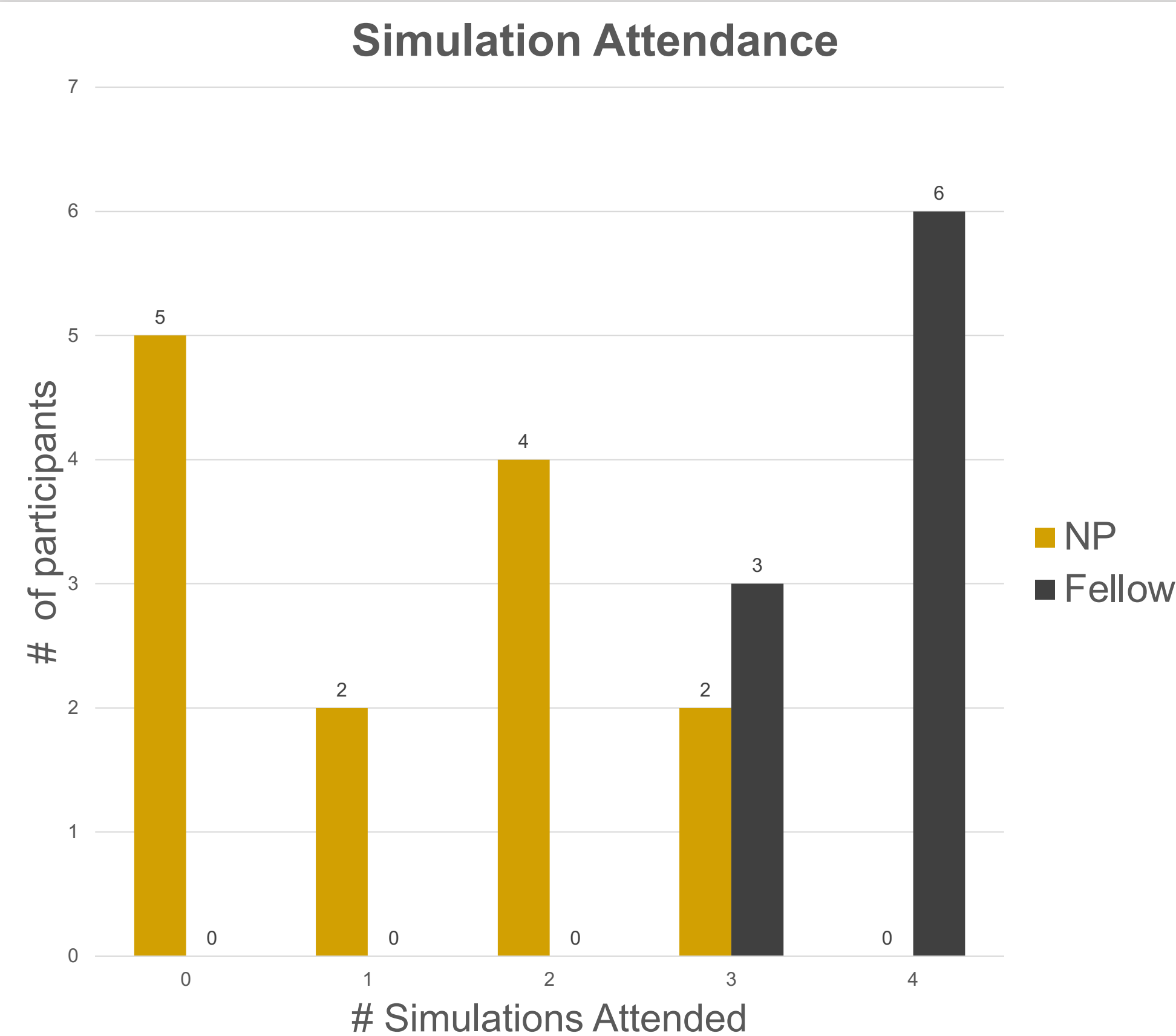
Encourage continued participation in simulations

Expand simulation to more participants

RESULTS

The PDSA cycle took place from August 2022 through the end of December 2022. Participants included pediatric critical care fellows and NPs. The pre-simulation survey was completed by 26 individuals while the post-simulation was completed by 23, with 3 lost to follow up.

- 14 of 16 NPs from the PCICU NP group responded (87.5%)
- 8 fellows and 9 NPs participated in simulation in the 4-month cycle
- 8.7% of respondents attended 1 simulation, 21.7% attended 2 simulations, 21.74% attended 3, and 26.1% attended 4 or more simulations (NPs & Fellows)
- 9 (64%) NPs who responded to the survey participated in simulation and 5 (36%) did not participate
 - 22% of NPs attended 1 simulation
 - 56% attended 2 simulations
 - 22% attended 3 simulations
- 87% increase in comfort levels following participation in simulation (both NPs and fellows)



LIMITATIONS

- There were 3 fewer post-simulations surveys than pre-, so this could be interpreted as lost to follow up
- Surveys were anonymous, so it is impossible to evaluate the change in comfort level in a particular individual
- Fewer NPs completed the post-survey than the pre-, and of those that did complete the survey, 4 NPs scored their comfort level as N/A whereas in the pre-survey all respondents gave a numerical value for their comfort level

IMPLICATIONS FOR PRACTICE

The difference between the pre-simulation comfort level of NPs and Fellows was +0.69 (6.68 on on the pre-survey compared to 7.37 on the post-survey)

- **Aim was met**; NP participation increased from 0% prior to the PDSA cycle to **64%** at the end of the cycle in respondents
- There was a **900%** increase in participation among NPs in the PCICU during the PDSA cycle
- The **increase** in scores in comfort levels among NPs and fellows supports the utilization of simulation for providers in the PCICU
- **All** participants felt simulation to be beneficial to their learning (87%) and there was an **increase** in self-reported comfort following participation
- Simulation should be utilized in practice and its use can be further expanded to meet the needs of various learners including but not limited to, nurses, respiratory therapists, NPs, fellows, and residents.

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