Unit-based Simulation for the Bedside Registered Nurse

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BACKGROUND & LITERATURE REVIEW

- SJHA RRT data
- Literature review showed HFS was mainly used in:
  - Academic setting
  - Lab setting
  - Military setting
  - Aviation industry
  - Space program
- HFS was rarely reported in a healthcare setting at the unit based level
Early identification of the deteriorating patient is a significant nursing function.

Rapid Response Team data identified cardiovascular step-down units as having the largest number of transfers to a higher level of care (ICU).

Are nursing staff appropriately identifying the early stages of patient deterioration?
The purpose of this study was to examine the effect of using unit-based High Fidelity Simulation (HFS) to improve bedside registered nurses’ identification of deteriorating patients on step-down cardiovascular units by assessing their knowledge and self-confidence levels.

Objectives:
- To review the feasibility and benefit of using high fidelity simulation in an acute care nursing unit environment.
- To describe the effect of high fidelity simulation on knowledge and self-confidence scores.
RESEARCH QUESTIONS

1. What is the effect of using unit-based HFS as an educational tool on professional RNs’ knowledge levels in acute respiratory deteriorating patients on step-down cardiovascular units in a community hospital?

2. What is the effect of using unit-based HFS as an educational tool on professional RNs’ self-confidence levels in handling acute deteriorating patients on step-down cardiovascular units in a community hospital?
METHOD

- A pilot study using a quasi-experimental design with an interventional pre-post method
- Convenience sample of nurses working on 2 step-down cardiovascular units
- HFS was conducted on an empty nursing unit
- The intervention consisted of a HFS scenario depicting a chronic Obstructive Pulmonary Disease (COPD) patient in respiratory distress
- Approved by Saint Joseph’s Institutional Review Board
INTERVENTION

- Intervention packet provided to participants
- Scripted orientation to the simulation experience
- Participants given the simulation patient information card
- Simulation scenario
- Scripted debriefing
- Post-assessment instruments
- $10 gift card for participation
DATA COLLECTION

- Instruments:
  - Demographic questionnaire
  - Knowledge instrument
  - Self-confidence scale (Dr. Hicks)
RESULTS: SAMPLE (n = 23)

<table>
<thead>
<tr>
<th>Demographic Characteristic</th>
<th>Mean (range)</th>
<th>Number (%)</th>
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<tbody>
<tr>
<td>Nursing experience in years</td>
<td>11.88(1-34)</td>
<td></td>
</tr>
<tr>
<td>Baccalaureate prepared RNs</td>
<td></td>
<td>14 (60.9)</td>
</tr>
<tr>
<td>Certified RNs</td>
<td></td>
<td>12 (52.2)</td>
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<tr>
<td>Professional organization members</td>
<td></td>
<td>13 (56.5)</td>
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RESULTS: SCORES ON KNOWLEDGE TEST AND SELF-CONFIDENCE TOOL

- Knowledge: Pre - 72.73%, Post - 81.82%
  - p < .01

- Self-confidence: Pre - 4.40, Post - 4.59
  - p < .01
LIMITATIONS

- Limited sample size
- Findings may not represent the general population of acute care nurses
- Possibility of discussion between the participants about the scenarios and test questions
- Hawthorn Effect
- Knowledge and self-confidence levels being measured immediately after the HFS intervention
IMPLICATIONS FOR STAFF DEVELOPMENT

- Studying a larger pool of RN’s
- Although the unit based HFS seemed to be a favorable means, further comparative studies needed
- HFS could be tailored to:
  - Unit specific educational needs
  - Competencies for RN’s
- Increase knowledge and self-confidence levels post-intervention could have a positive impact on preventing further patient deterioration
CONCLUSION

- HFS could be beneficial in clinical training
- Use of HFS with RN’s in the acute care environment is:
  - Feasible
  - Effective way of increasing knowledge and self-confidence in acute patient deterioration events
Acknowledgment

A special thanks to:

Dr. Lanell Bellury-Research Coordinator at SJHA
Dr. Kathy Aduddell
Dr. Patricia Hart
John Somerville-(Sim-man Expert at Mercer University)
Dr. Hicks- (for letting us use the self-confidence scale)
Risa Benoit-Critical care CNS for helping us develop knowledge questionnaires
Our participants-CV-Stepdown RN’s
Susan Beard -Education Coordinator CNS (Sim-man Expert at SJHA)
Study Investigators’ managers- for allowing us 12 hours/month to work on our research project
SJHA RRT team
SJHA Nurse Research scholar program
Questions
References

References


References


