Treating Dyspnea
An Educational Intervention for Progressive Care Nurses

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Introduction & Background

Dyspnea, or the subjective sensation of difficult breathing, is one of the most common symptoms in patients with advanced disease, with a prevalence of greater than 50% among terminally ill patients. In spring of 2020, more than half of the patients upgraded to the Trauma-Surgical ICU were returned to progressive care within 48 hours. The purpose of this project is to implement a targeted, evidence-based educational program on the care of patients with dyspnea for progressive care nurses to stop unnecessary ICU upgrades.

Methods

This was a pre-post intervention quality improvement (QI) project to increase knowledge and self-efficacy of progressive care nurses managing dyspnea to reduce ICU utilization. The project was implemented over a 5-month period in a 38-bed inpatient medical-surgical progressive care unit within an acute care and academic center in the southwestern United States. The purpose of this project is to increase confidence in the care of dyspnea as measured by average scores on a post-intervention knowledge assessment.

Findings

Demographics

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<tr>
<th>Group</th>
<th>Results, (%)</th>
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<tbody>
<tr>
<td>Age in years, (N)</td>
<td>46.5 (n=39)</td>
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<tr>
<td>Gender, (N)</td>
<td>Male 26 (67%), Female 13 (33%)</td>
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<td>Race, (N)</td>
<td>White 34 (87%), Non-Hispanic 2 (5%), Native American 1 (2%), Other 4 (10%)</td>
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<td>Total Nursing</td>
<td>64 (50%), 0-2 years 36 (25%), 2-5 years 13 (10%), 5-10 years 4 (3%), &gt;10 years 2 (1%)</td>
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<td>Years on PCT/IV</td>
<td>0-2 years 13 (33%), 2-5 years 21 (55%), &gt;5 years 15 (32%)</td>
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Emergency resource identification

- Respiratory Therapy Provider: 81%
- Change to rapid response team: 77%
- Follow nurse: 68%
- Rapid response: 36%
- Collaboration with ICU nurse: 18%

Qualitative analysis included 22 responses collected during the stakeholder interviews. The thematic analysis of stakeholder input was distilled into an outline for presentation content.

Results

A total of 39 nurses participated in the intervention, 51% through in-person presentations and 49% through secure online survey. All respondents included in the study were registered nurses actively employed on the pilot unit during the study period with no other exclusion criteria. The study protocol underwent ethical review by the doctoral project College Ethical Review Committee, as well as the project site hospital and its affiliated college via their independent Internal Review Boards and was acknowledged as QI.

Post-testing demonstrated a 16.1% improvement in knowledge, and a 9.3% increase in self-efficacy in the scores as evaluated by a dependent t-test. ICU upgrades from the pilot unit dropped by 46.1%, with no change in average unit census.

Discussion & Conclusions

All measurements demonstrated statistically significant improvements in knowledge, and self-efficacy. The clinical significance is demonstrated by the large drop in ICU upgrades. Reduced ICU utilization and more effective application of palliative treatments in the acute care setting decreases patient suffering and improves stewardship of critical care resources. This reduction in unnecessary ICU admissions, improves patient experience, overall outcomes and reduces financial burden.

The incorporation of stakeholder perspectives contributed to the success of the intervention. Careful examination of contributing factors, stakeholder needs, workflow and site-specific factors led to development of more relevant and directly applicable content for the learners. Going forward, more focus in early nursing education on emergency management and prioritization is needed to prevent treatment delays for acute symptoms or failure to rescue, and additional research is needed to understand the impacts of this type of intervention on nursing satisfaction and retention.

References & Acknowledgements

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