Abstract

Background and Purpose: Post-operative respiratory failure is associated with increased morbidity, mortality, and significant healthcare costs. This evidence-based, quality improvement project sought to determine whether I-COUGH, a best-practice nursing care bundle for managing post-operative patients, could reduce post-operative respiratory failure.

Methods: This project utilized a pre and post-intervention design over 12 weeks comparing nursing knowledge and patient outcomes at pre and post-intervention within a medical-surgical unit at a community hospital in Northeastern Maryland, U.S.A. Virtual education on the I-COUGH bundle and an interactive activity was provided to nursing teams on the units. Descriptive statistics such as mean and standard deviation as well as Wilcoxon signed-rank test were used to analyze the results. Utilizing Electronic Medical Record (EMR) documentation, randomized monthly audits were performed during the pre-intervention and post-intervention period to establish and monitor the completion of I-COUGH interventions. A prepared dataset was used for nursing data and post-intervention data.

 Results: A total of 35 nurses were included in the educational intervention. There was a statistically significant improvement in nurses' knowledge of the bundle ($p < 0.001$). Nurses had average pre-test scores of 17% (SD 11%) and post-test scores of 92% (SD 8%). A total of 40 patients were included in the pre and post-intervention chart audits. Majority of patients were male (52.5%, 21/40) with an average length of stay 5.8 days (SD 5). Post-operative respiratory failure patient cases decreased from three cases pre-intervention to zero cases post-intervention. Additionally, all five bundled interventions increased in frequency post-intervention.

Conclusions: This project demonstrated the important role of bundled nursing interventions and may have contributed to zero patient cases of post-operative respiratory failure.

Implication: Aiming to increase nursing knowledge and improve care during the post-operative period, which would reduce incidences of post-operative respiratory failure, this project demonstrated promising results.

Keywords: Post-operative, Respiratory Failure, Nursing, Medical-Surgical, Bundle