Increasing Adherence to Preventative Care Bundles for Healthcare-Associated Infections: The Impact of Nurse Education

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Abstract: Catheter-associated urinary tract infections (CAUTI) and central line-associated bloodstream infections (CLABSI) are among the most common healthcare-associated infections (HAI), contributing to prolonged lengths of stay, greater costs of patient care, and increased patient mortality. Evidence-based preventative care bundles exist to establish consistent, safe patient-care practices throughout an entire organization, helping to ensure the collective application of care strategies that aim to improve patient outcomes and minimize complications. The cardiac intensive care unit at a nationally ranked teaching and research hospital in the United States exceeded its annual CAUTI and CLABSI targets in the fiscal year 2019, prompting examination into the unit's infection prevention efforts that included preventative care bundles for both HAIs. Adherence to the CAUTI and CLABSI preventative care bundles was evaluated through frequent audits conducted over three months, using standards and resources from The Joint Commission, a globally recognized leader in quality improvement in healthcare and patient care safety. The bundle elements with the lowest scores were identified as the most commonly missed elements. Three elements from both bundles, six elements in total, served as key content areas for the educational interventions targeted to bedside nurses. The CAUTI elements included appropriate urinary catheter order, appropriate continuation criteria, and urinary catheter care. The CLABSI elements included primary tubing compliance, needleless connector compliance, and dressing change compliance. An integrated, multi-platform education campaign featured content on each CAUTI and CLABSI preventative care bundle in its entirety, with additional reinforcement focused on the lowest scoring elements. One-on-one educational materials included an informational pamphlet, badge buddy, a presentation to reinforce nursing care standards, and real-time application through case studies and electronic health record demonstrations. A digital hub was developed on the hospital's Intranet for quick access to unit resources, and a bulletin board helped track the number of days since the last CAUTI and CLABSI incident. Audits continued to be conducted throughout the education campaign, and staff were given realtime feedback to address any gaps in adherence. Nearly every nurse in the cardiac intensive care unit received all educational materials, and adherence to all six key bundle elements increased after the implementation of educational interventions. Recommendations from this implementation include providing consistent, comprehensive education across multiple teaching tools and regular audits to track adherence. The multi-platform education campaign brought focus to the evidence-based CAUTI and CLABSI bundles, which in turn will help to reduce CAUTI and CLABSI rates in clinical practice.

Keywords: education, healthcare-associated infections, infection, nursing, prevention

Conference Title: ICCN 2020: International Conference on Clinical Nursing

Conference Location: London, United Kingdom

Conference Dates: March 12-13, 2020