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Effects of Catheter-Associated Urinary Tract Infection (CAUTI) Prevention Protocol in Intensive Care Patients

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Abstract

Objective: To evaluate the effectiveness of CAUTI prevention protocol on reducing CAUTI rates in intensive care patients.

Design: Quasi-experimental, Descriptive


Methods: Patients will receive CAUTI prevention protocol-based care for indwelling urinary catheters.

Results/Conclusions: Pending results and data collection.

Introduction

Over a third of nosocomial anomalies arise as a result of catheter-associated urinary tract infections. Not only do these infections contribute to prolonged hospital stays and the rising financial burden of hospitalization, they also are associated with increased hospital deaths (Fink et al., 2012, p. 715). Adherence to generalized prevention protocols has consistently demonstrated a lower incidence and prevalence of CAUTIs (Durant, 2017, p. 1331). In preventing these types of hospital-acquired infections, patients are sooner able to return to a normal state of living. In this study, the effects of implementing CAUTI prevention protocol will be evaluated through a decrease in CAUTI incidence in intensive care patients at HaysMed.

Purpose

The purpose of this study is to determine the effect of the CAUTI prevention protocol on the incidence of CAUTIs in Med/Surg ICU patients at HaysMed.

Key Terms


Indwelling urinary catheter: “A catheter which is inserted into the bladder, via the urethra and remains in situ to drain urine” (The Royal Children’s Hospital Melbourne, n.d.).


Methodology

Research Design: Quasi-experimental, Descriptive

Interventions


Independent variable (IV): catheter-associated urinary tract infection (CAUTI) prevention protocol

Dependent variable (DV): presence of CAUTI in Med/Surg ICU patients at HaysMed

Proposed Research Question

The implementation of the CAUTI prevention protocol will decrease the number of Med/Surg ICU patients with CAUTIs at HaysMed.

Literature Sources

According to Gray et al. (2016), the implementation of a "catheter-associated urinary tract infection (CAUTI) prevention campaign" decreased the number of patients who developed CAUTIs in their study (p. 115). In Durant’s (2017) research that reviewed 29 studies concerning nurse-driven protocols for CAUTI prevention, all but one reported a decrease in CAUTI development rates (p. 1331).

Sample


Ethical Considerations

Seeking IRB Full Review at HaysMed, Fort Hays State University Department of Nursing, and Fort Hays State University.

Data Collection

N = 100

n = 50 Med/Surg ICU patients with indwelling urinary catheters receiving CAUTI prevention protocol catheter care

n=50 Med/Surg ICU patients with indwelling urinary catheters receiving standardized catheter care

For a one-year period, 100 patients that are admitted to the HaysMed Med/Surg ICU with indwelling urinary catheters will be split into two groups, one of which will receive specific CAUTI prevention protocol catheter care, and one of which will receive standard care according to HaysMed facility policy. Participants will sign an informed consent that will uphold patient participant confidentiality. CAUTI prevention protocol catheter care will include components of the "UTI prevention (UTIP) bundled protocol", including evaluating the necessity for catheter use; implementing "a daily reminder system" to continually determine this need; having a designated catheter care section of the patient’s chart; performing routine perineal and catheter care; and considering appropriate catheter size upon insertion (Conner et al., 2018, p. 1).

Results/Findings

Projected Data Analysis Method

The independent t-test will be utilized to examine the incidence of CAUTIs in HaysMed Med/Surg ICU patients who received specific CAUTI prevention protocol compared to the incidence of CAUTIs in those that received standardized catheter care.

Literature Findings

All analyzed studies demonstrated a measurable decrease in the incidence of CAUTIs following the implementation of CAUTI prevention protocol. Gray et al. (2016) reported “a 12% decrease in the CAUTI rate and 20% reduced catheter utilization” with the use of the protocol (p. 116). Similarly, another study summaries, “Results showed the UTIP protocol reduced catheter days by nearly 1.5 patient days (from 5.3 to 3.8 days), demonstrating a decrease in hospitalization duration. The same study also found “a 39% reduction in device days and a 45% drop in the CAUTI rate from the 2012 baseline” (Connor et al., 2018, pp. 1-3).

Discussion

Implications for Nursing

This study is valuable in the nursing profession because nurses play a direct role in the prevention of CAUTI development in all patient populations, specifically that of ICU patients. Yet, there are issues hindering the push for stronger CAUTI prevention protocols, such as “1 difficulty with the nurse and physician engagement, (2) patient and family request for indwelling catheters, and (3) the role of the emergency department (ED) in catheter insertion” (Krein et al., 2013, pp. 883-884).

Conclusion

Pending results and data collection, literature findings support that implementation of CAUTI prevention protocol decreases the incidence of CAUTIs in varied patient populations. For future research, it is recommended that CAUTI prevalence following implementation of CAUTI prevention protocol in all units be evaluated.

References


