Implementation of an Evaluation of DaVita CLABSI Protocol to Reduce Bloodstream Infections in Acute Hemodialysis Patients

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Abstract

Problem: Central line-associated bloodstream infection (CLABSI) is the primary cause of morbidity and mortality in End-Stage Renal Disease (ESRD) patients on hemodialysis. It is associated with severe medical conditions, prolonged hospitalization, and financial burden. Despite its convenience and simple operation, central venous catheter (CVC) account for 70% of all CLABSI occurrence and increase the risk for septicemia and death.

Methods: This quality improvement (QI) project utilized a descriptive observational pilot design to identify the effect of DaVita CLABSI Protocol on CLABSI occurrence rate. Quantitative data was collected retrospectively and prospectively via electronic medical record (EMR) review before and after implementation of DaVita CLABSI Protocol. The results were analyzed using the Pearson Chi-Square test and Independent Sample T-test.

Results: Two hundred and fifty-three patients met eligibility criteria for this QI project from November 1, 2021 to March 31, 2022. The relationship between the rate of CLABSI occurrence and group (pre vs. post) was found to be statistically insignificant (p=0.393). During the pre-implementation phase from November 1, 2021 to January 31, 2022, there was a total of 147 inpatient hemodialysis patients with CVC access. Of this sample, there were 1 CLABSI (25%), 9 possible (56.3%), and 137 without infections (58.8%). After the implementation phase from February 14, 2022 to March 31, 2022, there a total of 106 inpatient hemodialysis patients with CVC access. The results were 3 CLABSI (75%), 7 possible (43.8%), and 96 without infection (41.9%).

Implications: The results indicates that there is significant influence of risk factors such as location of CVC access, CVC access type, catheter days, and length of stay on CLABSI occurrence rate. This warrants more studies on the effect of CLABSI on patient outcomes.

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