

Spring 5-4-2017

The Effect of Bundled Interventions on Prevention of Hospital Acquired Clostridium Difficile Infection

Kaitlin M. Kendys

Valparaiso University, kaitlin.kendys@valpo.edu

Follow this and additional works at: <http://scholar.valpo.edu/gas>

Recommended Citation

Kendys, Kaitlin M., "The Effect of Bundled Interventions on Prevention of Hospital Acquired Clostridium Difficile Infection" (2017). *Graduate Academic Symposium*. 43.
<http://scholar.valpo.edu/gas/43>

This Poster Presentation is brought to you for free and open access by the Graduate School at ValpoScholar. It has been accepted for inclusion in Graduate Academic Symposium by an authorized administrator of ValpoScholar. For more information, please contact a ValpoScholar staff member at scholar@valpo.edu.

The Effect of Bundled Interventions on Prevention of Hospital Acquired Clostridium Difficile

Kaitlin Kendys, BSN, RN

Clostridium difficile infection (CDI) rates have steadily increased in hospitalized patients due to the change in epidemiology. Approximately 13 of every 1,000 inpatients are either infected or colonized with *C. difficile* (CDC, 2013). CDI rates continue to rise due to the hyper-virulent strain of *C. difficile* and length of therapy needed to treat CDI. The average cost for a single inpatient CDI is more than \$35,000, and the estimated annual cost burden for the healthcare system exceeds \$3 billion (Walsh, 2012). The purpose of this evidence-based project (EBP) was to reduce hospital-acquired CDI rates over a 3-month period-of-time from November 2016 to February 2017 through the implementation of a bundle of care including: (a) proper hand hygiene practices, (b) adequate and appropriate surface cleaning practices, (c) compliance to contact isolation procedures, and (d) strengthening of an existing antibiotic stewardship committee. The Health Promotion Model and the Stetler Model of EBP guided this system change. A longitudinal pre-test post-test design using all CDI inpatients from a general medical unit in Northwest Indiana was implemented. Descriptive statistics were used to document specific interventions used during the EBP project and compared with post-test chart audits from the same timeframe of the previous year. Collected data included CDI incidence, compliance to hand hygiene, contact isolation procedures, and environmental surface cleaning protocols, as well as de-escalation and timely discontinuation of antibiotics, and appropriate selection of antimicrobial therapy. An independent samples t-test indicated that there was no significant difference between the CDI incidence pre-intervention ($M=.30$, $SD=.470$) and post-intervention ($M=.24$, $SD=.431$); $t(19) = .000$, $p = .059$. Despite the lack of significance in CDI rates, a repeated-measures ANOVA was performed to examine the relation between pre- and post-test hand hygiene compliance and contact isolation precaution compliance which did demonstrate significant effects with both hand hygiene compliance and on compliance to contact isolation precautions, Wilks' Lambda = .558, $F(3, 37) = 9$, $p = .000$ and Wilks' Lambda = .375, $F(3, 37) = 20$, $p = .000$. A 96.8% surface cleaning compliance with 10% sodium hypochlorite solution was noted post-intervention. The educational data provided in this EBP project has been adopted by the facility and will be used for new hire education and annual competencies. An electronic best practice advisory will be implemented in the electronic health record to alert healthcare providers to alternative antimicrobial therapies.