The Effects of Chlorhexidine Bathing on Reducing Central Line Associated Blood Stream Infections
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BACKGROUND
- The CDC estimates that 80,000 CLABSI develop each year in ICU environments, but this estimate climbs to 250,000 CLABSI per year when entire hospitals are included in the assessment (CDC, 2011).
- CLABSI are a prevalent and costly issue in the healthcare industry today. CLABSI are a preventable type of infection, and evidence based interventions should be utilized in the effort to reduce them.
- Existing evidence supports the use of daily chlorhexidine bathing as an effective intervention in the prevention of CLABSI in adult patients with a central venous access device in comparison with traditional soap and water bathing.
- Further study on the effectiveness of chlorhexidine bathing is warranted, specifically randomized controlled studies in order to strengthen the evidence in favor of this intervention, and promote the incorporation of this intervention into the plan of care in facilities across the country.

LITERATURE REVIEW

Karki and Cheng (2012)
- Systematic review
- Published in the Journal of Hospital Infection
- Included twenty studies
- Level one strength of evidence
- Five of these studies exhibited improvement in the CLABSI rate, but three studies examined presented no benefit of chlorhexidine bathing in lowering the rate of CLABSI
- Combined analysis of accessible studies revealed greater than 50% reduction in the rate of CLABSI with the use of chlorhexidine bathing instead of bathing with soap and water or non-medicated washcloths

- A randomized controlled study.
- Performed in nine intensive care and bone marrow transplantation units in six hospitals which included a total of 7727 patients between August 2007 and February 2009.
- Level one strength of evidence
- The rate of hospital acquired bloodstream infections was 28% lower with chlorhexidine-impregnated washcloths (p=0.007).
- When chlorhexidine wipes were utilized, there was a 98% reduction in the rate of fungal bloodstream infections.

Dixon & Carver (2010)
- Observational cohort study
- Performed in a nine bed SICU, which involved all patients who were admitted or transferred to the unit
- A level three strength of evidence study
- The sample size was adequate with more than 6000 central line days being studied
- 144 patients were included in the initial three months of the study resulting in a decrease in CLABSI rates from 12.07 CLABSI per 1000 central line days to 3.17 CLABSI per 1000 line days. This was an astonishing 73.7% rate reduction (p=0.035).
- Pre intervention and post intervention CLABSI rates were then reviewed, and a 76% reduction in CLABSI was noted.

Lopez (2011)
- A quasi-experimental study
- Conducted in a medical-surgical intensive care unit (ICU) at a regional medical center
- Level two strength of evidence study
- Rates of CLABSI infection were reduced by 96% from a pre intervention rate of 5.7/1000 device days to a post intervention rate of 0.2/1000 device days (p=0.001).
- The compliance rate with using the chlorhexidine baths throughout the study was 97%.

Munoz-Price, Hota, Stemmer, & Weinstein (2009)
- A quasi-experimental study
- A study performed at a 70 bed LTACH in Chicago, IL was in process from February of 2006 to February of 2008
- The level of strength of this study is two
- Review of the results showed a 99% reduction of CLABSI rates during the period of time when chlorhexidine bathing was utilized (p=0.02)

REFERENCES


