

they are given a two-week probation. Another assessment is done before certifying them competent. Operatives who fail twice are redeployed to non-clinical areas. The audit team gave direct feedback during monthly audits to evaluate performance and provide ongoing support and reinforcement. **Results:** The compliance of HTC in the patient zone picked up immediately from 71% in April to 92% in June. However, a decrease to 68% was observed between September to December 2023, but soon picked up to 82% in February 2024 after retraining was conducted. Decrease in ATP levels after cleaning further validated increase efficiency of HTC. **Conclusions:** These results highlight that structured learning rapidly improves the thoroughness of cleaning [2, 3]. Ongoing assessment and feedback are essential to address subsequent deficiencies and for corrective actions to be taken promptly [2, 4]. This framework may be useful for teams seeking to optimize strategies in environmental hygiene.

Keywords: High touch cleaning; Patient environment; Training and Competency

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Assessing the impact of including sterile 2% chlorhexidine gluconate with 70% isopropyl alcohol applicator in a preoperative skin preparation bundle on surgical siteinfection rate

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¹Becton Dickinson Holdings Pte Ltd, Singapore Abstract topic: Healthcare Associated Infection (HAI), Singapore

Objectives: 2% chlorhexidine gluconate (CHG) with 70% isopropyl alcohol (IPA) has been recommended over povidone-iodine (PVI) for skin preparation. BD ChlorPrep™ is a ready-to-use applicator pre-filled with sterile 2% CHG and 70% IPA solution, which healthcare professionals have reported higher preference over PVI in an applicator or a bulk bottle. This study aims to evaluate the impact of including 2% CHG with 70% IPA applicator in the care bundle for preoperative skin preparation on surgical site infection (SSI) rate. **Methods:** A systematic literature review was conducted on PubMed in July 2022. Study inclusion criteria were (1) English publications, (2) 2% CHG with 70% IPA applicator included in a preoperative skin preparation bundle and (3) SSI rate reporting. A weighted average of SSI rate change was calculated, using the study sample size as weights. **Results:** A total of 116 studies were identified and 51 of them were found relevant for further review. Of them, 18 studies met the study inclusion criteria and 13 of these publications (72%) studied BD ChlorPrep™ in their bundle of care. 92% (12/13) of these studies demonstrated a statistically significant reduction in SSIs. 10 studies reported statistically significant SSI reduction rates, one study reported full compliance with the care bundle was associated with lower risk of SSI and one study reported four-fold higher likelihood of achieving zero SSI. Based on the 10 studies which reported statistically significant SSI reduction rates, a sample-size-weighted average of 71% reduction in SSI was observed when BD ChlorPrep™ was included in the bundle for preoperative skin preparation. **Conclusions:** There remains considerable low compliance and major variation in standardised skin preparation practices among hospitals. Using BD ChlorPrep™ may encourage a standardised and thorough approach in skin preparation. With the implementation of a bundle, together with appropriate training, compliance with skin preparation may be improved, which can potentially reduce SSIs.

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Risk factors of catheter – related infection in patients undergoing hemodialysis using non – tunneled double lumen catheter at Dr. Kariadi Hospital Semarang

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Introduction: Hemodialysis (HD) is the most common renal replacement therapy modality for chronic kidney disease patients. Nearly 80% of patients starting HD use a non-tunneled double lumen (DL) catheter as the first vascular access. However, the use of this access may increase the risk of both exit site and bloodstream infections. This study aims to identify the risk factors for infection related to non-tunneled DL catheters in HD patients at Dr. Kariadi Hospital, Semarang, Indonesia. **Methods:** A retrospective cross-sectional study design was applied among adult patients who underwent HD using non-tunneled DL catheter in the Hemodialysis Unit at Dr. Kariadi Hospital between January 2022 and March 2024. Data were collected from medical histories and patients' medical records, then analyzed using SPSS 21. P-values less than 0.05 were considered statistically significant. **Results:** This study involved 72 adult HD patients, with 58% male subject. Among them, 23 (31.9%) subjects experienced infections related to non-tunneled DL catheter. These infections included exit site infections (21%) and bloodstream infections (95%). The most dominant microorganism in infected patients was *Staphylococcus aureus*. The location of catheter insertion in the femoral vein ($p = 0.03$) and a high white blood cell count ($p = 0.03$) were significant risk factors for infection. However, factors such as age, diabetes mellitus, duration of catheter insertion > 3 months, serum iron levels, hypoalbuminemia, and anemia were not significant risk factors ($p > 0.05$). **Conclusion:** In conclusion, catheter insertion in the femoral vein and a high white blood cell count were identified as contributing factors to infections related to non-tunneled DL catheters in HD patients.

Keywords: Catheter - Related Infection; Hemodialysis; Risk factors

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Cefepime continuous infusion as a part of antibiotic stewardship against MDR: NICU of Cipto Mangunkusumo Hospital (CMH) experience

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Background: As the incidences of preterm births and surgical cases increases, so do cases of neonatal sepsis in CMH. Furthermore, the common etiology of neonatal sepsis are multidrug-resistant bacteria which increase the risk of mortality. Cefepime is a fourth-generation cephalosporin which is increasingly being utilized in NICUs. Theoretically, continuous infusion of beta lactam antibiotics could maximize the time-dependent bactericidal activity and improve the probability of target attainment. This study aims to determine the effectiveness and safety of continuous cefepime administration in managing sepsis. **Methods:** This is retrospective cohort study on infants who suspected late onset sepsis from 2021 to 2023. The independent variables are continuous infusion and intermittent infusion, with outcomes including mortality rate, reduction in septic markers, use of antibiotic combinations, duration of