

antibiotic use, and renal function test. **Result:** There were 106 subjects receiving cefepime (56 continuous and 50 intermittent infusions; $p > 0.05$). No significant differences in demographic data such as gestational age, prematurity condition, birth weight, and surgical conditions were found between the two methods. Out of 66 subjects with proven sepsis, 28% were classified as MDR, 12% as XDR, and 16% as PDR. No difference in sepsis-related mortality outcomes was observed between the two methods (64.3% vs. 70%; $p = 0.532$). Continuous administration reduced C-reactive protein (80.52 vs. 51.69 mg/L; $p = 0.000$) and procalcitonin (11.9 vs. 6.72 ng/mL; $p = 0.008$) more effectively than intermittent. In surgical cases, continuous administration reduced the risk of multidrug therapy (RR 0.5 CI 95% 0.243-0.902; $p = 0.045$). There was no difference renal function impairment between two methods. **Conclusion:** Cefepime continuous infusion can significantly reduce infection markers compared to intermittent administration. In surgical cases, continuous cefepime administration reduces the risk of multidrug therapy. The use of continuous cefepime can be considered as part of antibiotic stewardship in the NICU.

Keywords: cefepime continuous; efficacy; sepsis; antibiotic stewardship

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Effects of using the nursing care model for the prevention of adverse events in critically ill patients undergone arterial line insertion

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Objectives: The most common adverse events (AEs) of an arterial line (A-line) insertion included inflammation, infection, bloodstream infection (BSI), disconnection, and occlusion of the device, etc., the purposes of this study were to compare the nursing practice of registered nurses before and after using the nursing care model for the prevention of AEs and to compare the incidence of AEs. **Methods:** This quasi-experimental study was conducted among registered nurses ($n = 14$) and critically ill patients who received A-line insertion ($n = 40$), which were divided into either a control group ($n = 20$) or an experimental group ($n = 20$). The tools used included 1) personal data and clinical data recording form, 2) AEs recording form, 3) the nursing care model for prevention AEs in patients who received A-line insertion comprising five methods "ABCD'S of care nursing care model"; 1) assessment of the AEs, 2) blood sampling, 3) cleansing and closed A-line site with the use innovation "Tegaderm with Window for A-line" and circuit care, 4) daily review, and 5) standard of care and 4) a nursing practice behavior assessment form. Data analysis involved descriptive statistics, t-tests, and chi-square tests. **Results:** The average nursing practice behavior scores increased from 2.57 points (SD = 0.51) to 4.5 points (SD = 0.52), indicating a substantial improvement. Moreover, the incidence of AEs decreased from 45% to 5%, a remarkable reduction. These findings underscore the effectiveness of the nursing care model in preventing AEs in critically ill patients. **Conclusion:** Based on the "ABCD'S of care", the nursing care model has proven effective in reducing the incidence of AEs in critically ill patients. This finding enhances our understanding of nursing practices and provides a practical solution for healthcare professionals. It is, therefore, crucial to disseminate and implement these guidelines to ensure sustainable nursing practices.

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Reduction of the blood culture contamination rate in emergency department: a success story

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Introduction: Blood culture result provides a crucial information for patient care. Contaminated blood culture samples may result in inappropriate antimicrobial prescription, increase the cost and unnecessary prolonged hospitalization. In our hospital, the blood culture contamination is high in the emergency department. This initiative aims to improve the emergency department's blood culture contamination rate which will eventually improve the patient care and benefit the hospital financially.

Methods: This quality improvement initiative used the Planning, Doing, Checking and Acting (PDCA) models, which provides a simple yet effective approach for problem solving and managing changes. A workgroup consist of Infection control team and emergency department representatives was formed to work on this initiative. Weekly blood culture contamination rate was closely monitored. Root causes were identified, and series of retraining were performed. Blood culture contamination rate before and after the initiative were compared. **Results:** Focus group discussion and site visit reinforcement showed that the high blood culture contamination rate is contributed by many factors. Among the factors included were the inadequacy of blood culture sets, improper use of skin disinfectant, improper hand hygiene techniques and improper aseptic techniques practice by some of the house officers. Blood culture contamination rates 6 months before and during feedback intervention showed significant decrease (3.52% before intervention and 2.95% after intervention; $P < .05$). **Discussion:** Blood culture contamination rate reduced significantly after the joint initiative continued to decrease with the use of a pre-disinfection process with 2% Chlorhexidine gluconate cloth before blood sample collection process. Practice improvement also was evident with effective feedback mechanism.

Conclusion:

Key words: Blood culture contamination; Infection prevention; Emergency department; Quality improvement

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Improving the quality of tuberculosis patient care in NAN hospital using the FCD NAN model

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Introduction: During the years 2018-2019, Nan Hospital had tuberculosis screening rates of 69.15% and 74.24%, respectively, which were lower than the target (target > 90%). Consequently, tuberculosis patients were referred for further examination in various hospital units and treated in general