

Application of Bundle Care to Reduce Invasive Catheter-Associated Infection in High Risk Units at a Medical Center

Authors : Hsin-Hsin Chang, Jann-Tay Wang, Wang-Huei Sheng

Abstract : Background: Hospital-associated infections (HAIs) have significant medical and social resource consumption. In view of medical technology change rapidly and the prolonged average life expectancy, the patients' chances of receiving invasive medical devices have also increased. As well as the potential disease of the patients, the aging, and immune dysfunction makes the disease more serious, raising the risk of HAIs. In our adult intensive care units, catheter-associated urinary tract infections (CAUTIs) have an average of 4.6% in 2014, which is much higher than that of the National Healthcare Safety Network (NHSN). Therefore, we started the intervention of CAUTI bundle care. Methods: This 3-year intervention was conducted in adults' intensive care units (ICUs) during January 2015 to December 2017. The implementation of CAUTI bundle care in order to reduce invasive catheter-associated infections were built on evidence-based infection control measures. Prospective surveillance was performed on all patients admitted to hospital. The four major directions are 'Leader Engagement', 'Educate Personnel', 'Executive Multidisciplinary Teamwork', 'Innovation and Improvement of Tools'. Results: During the intervention period, there were 167,024 patient-days with a total of 508 episodes of CAUTIs in the entire adult ICUs identified. The incidence of CAUTIs in adult ICU was significantly decreased in the intervention period (from 2015 to 2017), from 4.6 to 3.6 per 1000 catheter days ($p=0.05$). Conclusion: The necessity for the implementation of CAUTI bundle care in the health care system plays an important role in the quality and policy of infection control. Multidisciplinary teamwork, education, a comprehensive checklist and from time to time audit feedback to improve healthcare workers' compliance are the keys to success.

Keywords : bundle care, hospital-associated infections, leader engagement, multidisciplinary team work

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