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Infection Control Link Nurse and Health Care Associated Infection : Central Line

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Abstract

Healthcare-associated infections (HAIs) pose a significant threat to patient safety and are a major cause of morbidity and mortality in healthcare settings worldwide. In response to this challenge, many healthcare facilities have implemented infection control link nurse programs aimed at preventing and controlling HAIs. This review examines the effectiveness of implementing an infection control link nurse in reducing the incidence of HAIs and improving infection control practices in healthcare settings.

Key words: CLBASI, central line, infection

Introduction

Healthcare-associated infections (HAIs) are a significant cause of morbidity and mortality, affecting millions of patients worldwide each year. In response to the growing threat of HAIs, healthcare facilities have implemented various strategies to prevent and control these infections. One such strategy is the implementation of infection control link nurse programs, which involve designating specific nurses as infection control champions responsible for promoting and implementing infection control practices within their respective units. Central line-associated bloodstream infection (CLABSI) is one of serious healthcare-associated infections that cause increased medical costs, morbidity and mortality; however, CLABSIs have been prevented in many developed and developing countries using multifaceted approaches(1),(2) . Several guidelines for the prevention of CLABSIs are available, but the core contents of the evidence-based recommendations are shared in common(3),(4). Although the objectives of the CLABSI prevention guidelines are evident and simple, the implementation of these guidelines in clinical practices requires many factors to be well-coordinated. Heterogeneity in compliance or performance with the guidelines exists worldwide, and interventions have not always been successful(5). The importance of infection control in healthcare settings for patient safety and quality of care cannot be emphasized enough, but the available resources including expert personnel, reimbursement systems and managerial support are not always sufficient to deal with many active issues in most healthcare facilities. Different strategies for different regional or institutional situations are needed for the successful implementation of CLABSI prevention guidelines.

Using the National Health Safety Network (NHSN) data, the Centers for Disease Control and Prevention (CDC) reported a 50% drop in central line associated blood stream infections (CLABSIs) between 2008 and 2016, emphasizing the collaborative effort amongst healthcare providers for safer and reduced central line use(6). New Health and Human Safety (HHS) goals included a further 50% reduction in CLABSI by 2020 (6).

Failure to remove a central venous catheter (CVC) in patients who have been audited for removal was strongly associated with 30-day all-cause mortality, albeit in patients who had multi-drug resistant CLABSIs(7). Aside from the personal impact, HAIs have significant financial impact, with CLABSI costing anywhere between $40,412 and $100,980 . CLABSIs

contribute 18.9% towards the estimate $9.8 billion HAIs cost the US healthcare system(8).

The education of and feedback from healthcare workers are core components of implementing an intervention program. The education component should be organized in a manner that allows the healthcare workers to collaborate, learn from, and support each other.

Nurse and CLABASI

One study demonstrated that 8.3% of physicians and nurses were unaware of the CVC clinical necessity in non-ICU settings, while 21.2% of clinicians were completely unaware of the CVC presence through all levels of care(9),(10).Furthermore, study demonstrated that tutoring intervention reduced CLABASI rate during nine month periods (11). In addition, implementation of a unit-based quality nurse is associated with central line-associated bloodstream infections (12). Asma et al found that traumatic patients who received nursing guidelines showed decrease in the signs and symptoms of central line related infections than the traumatic patients who receive the routine nursing care(13). Moreover, educational interventions on hand hygiene can have a significant impact in CLABSI control particularly in ICUs with a high infection rate and resource constraints, The effectiveness of educational program on hand hygiene compliance was reflected in the improvement of posttest score, reduced number of missed opportunities and reduction of CLABSI rates in ICU (14).These findings also confirmed with Star et.al who demonstrated that reducing central line-associated bloodstream infection with a dedicated CLABSI prevention registered nurse role.(15).

Conclusion

The implementation of infection control link nurse programs is an effective strategy for reducing the incidence of HAIs and improving infection control practices in healthcare settings. By empowering dedicated nurses to champion infection control efforts within their units, healthcare facilities can strengthen their infection prevention and control programs, enhance patient safety, and ultimately, save lives.

Author's contribution

All authors contributed equally in conceptualization, literature search, and writing of final draft.

Conflicts of interest

None

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