Environmental Interventions to Control Clostridium difficile


Key Concepts/Context

*Clostridium difficile*, the strain behind *C difficile* infection (CDI), has been identified as the leading cause behind healthcare-associated diarrhea. There has been a dramatic increase in CDIs being associated with morbidity and mortality since the year 2000. Factors that often lead to patients contracting CDIs are contact with a contaminated area, contact with a care provider with *C difficile* on their hands, or contact with other patients already afflicted with CDI. Further research is needed to understand the best practices for controlling and preventing CDI.

Methods

This paper presents a literature review detailing contemporary methods for mitigating the spread of CDI within clinical environments. The review is divided into the following sections: hand hygiene practices, patient bathing and hand hygiene, contact precautions, room accommodations, environmental cleaning and disinfection, and medical equipment. Strategies for best practices and how they might be tailored to individual care center needs are described.

Findings

Important factors behind decreasing CDI incidence are patient isolation measures, disinfection of the healthcare environment, and hand hygiene compliance from patients and staff. Often these infection control measures are deployed in “bundles” or groups of several methods at a time. Using chlorine-based disinfectants on surfaces can be effective in mitigating CDI, as well as providing private rooms for patients with CDI.
Limitations

This study presents a literature review; no new qualitative or quantitative data were gathered to reinforce the conclusions drawn from these studies. CDI mitigation strategies for healthcare centers of different sizes and populations are not explored in detail.

Design Implications

Healthcare designers can help mitigate CDI rates by providing accessible hand hygiene tools, easily cleanable room designs, and an increased number of private rooms for infected patients. Safe storage and disposal methods for all single-use medical devices implemented in preventing CDIs could be provided.