Letters to the Editor

Hospital curtains: An undermined source of nosocomial infections

Sir,

Contact hygiene is often a neglected subject in most hospital settings, particularly with regards to contact with the patient environment in a hospital setting. The purpose of this letter is to emphasize the role of patient bedside curtains in the transmission of microbial pathogens. Various disease-associated bacteria are transferred from person to person via hospital equipment including bedside curtains, which are categorized as "high touch" surfaces by the Center for Disease Control and Prevention.[1] Various outbreaks of hospital-acquired pathogens and their transmission have been reported in clinics, inpatient wards, and Intensive Care Units (ICUs). Bedside, curtains are frequently directly touched by patient's hands, as well as the nursing staff and the visitors. This, in particular, makes all health-care workers, patients, and visitors vulnerable of transmitting disease-causing pathogens among each other.

Numerous human pathogens have been identified in hospital and clinic curtains. These include *Micrococcus* species (sp.), *Bacillus* sp., *Escherichia coli*, coagulase-negative *Staphylococcus*, and *Staphylococcus aureus*. Some of these bacteria may still persist even after laundry of curtains and become potential causes of infectious diseases, particularly in hospitalized patients with attenuated immune systems. In a survey where curtains were cleaned every 4 months reported, 42% vancomycin-resistant enterococci (VRE), 22% methicillin resistant *S. aureus* (MRSA), and 4% *Clostridium difficile* using contact plates and swabbing technique. Most contamination was found in privacy curtains of isolation rooms. Ninety-two percent of the privacy curtains in the hospital wards and ICUs to be contaminated with bacteria as determined by culture swabs.[2] Most of the hospital curtains were harboring MRSA and VRE, posing a potential pathogenic threat to the patient and their house staff.

Despite proper laundry, patient side curtains were reported to be contaminated within a week after they were replaced. If this trend of pathogenic transmission continues, there is a potential danger that newer, drug-resistant bacteria may evolve, providing a challenge to health-care providers to limit the spread of nosocomial infections. There was an epidemic of *Acinetobacter baumannii* in ICU settings of a tertiary care hospital in Birmingham (United Kingdom) in 2002, where bedside curtains were identified as the primary source of carbapenemase-producing *Acinetobacter* species, which were resistant to meropenem.[3] Similarly, in a recent outbreak of Group A *Streptococcus* (GAS) infection in ENT ward in Nottingham (UK), 10 out of 34 bedside curtains identified as reservoirs of GAS.[4]

These data highlight the importance of recognizing hospital curtains as a potential reservoir of microbial pathogens. It is imperative for health-care facilities to set an appropriate frequency of changing bedside curtains and promote contact hygiene to minimize a risk of bacteria transmission. This should be based on patient discharge and the institutional prevalence of microbial pathogens such as MRSA. It is crucial to adapt decontamination protocols to ensure effective elimination of microbes from hospital curtains. Besides contact hygiene before and after a patient interaction, one intervention suggested to spray 3% hydrogen peroxide to reduce curtain contamination. This technique is able to decontaminate bedside curtains after 2 h.[5] It is understandable that several factors contribute to the hurdles in achieving high disinfect rates; sustained efforts should be implemented to identify and control the spread of infectious agents that are transferred by contacting hospital curtains.

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Conflicts of interest

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