

Research no. [2]

Could Training Programs Eliminate Hospital Environmental Surfaces Contamination with Multidrug Resistant Bacteria

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Type of research: Shared research

Published in: The Egyptian Journal of Medical Microbiology

Volume 28 / No.3 / July 2019 163-170

ABSTRACT

Background: Hospital environment could be a risk for transmission of nosocomial infections. **Objectives:** This study aimed to evaluate the effect of training program on the elimination of microbial contamination of hospital environmental surfaces, devices and health care workers (HCWs) hands. **Methodology:** Two phases interventional study was conducted for basal evaluation and training of HCWs and housekeepers on standard precautions with evaluation of environmental surfaces, devices and hands contamination at basal level before as well as after routine cleaning and hand hygiene, also after implantation of a training program. **Results:** Significant reduction of environmental surfaces and devices contamination was detected after educational intervention at all departments (p-value >0.001). The most common isolate was *S. aureus* in operating rooms, orthopedic, and general surgery departments (44.4%, 26.9%, and 22.2% respectively), *E.coli* was the most common isolate in urology department (21.8%). Bed ledges/ bed arms samples showed the highest contamination level (39%) while curtain edges showed the least contamination site (4.2%). Nurses had the lowest frequency of hand contamination (30%) followed by physicians, the highest hand contamination recorded for housekeepers (50%). *E.coli* isolated from 47.4% of hands. The most isolated Multidrug Resistant Bacteria was MRSA (54.3%) followed by ESBLs producing *E.coli* (38.7%). After education there were significant improvements in practice observed for all subjects (p-value < 0.05) and environmental contamination decreased to zero level. **Conclusion:** Intervention with a training program has a positive impact on elimination of hospital environment contamination