Reduction of healthcare-associated infections in a long-term care brain injury ward by replacing regular linens with biocidal copper oxide impregnated linens

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Background: Contaminated textiles in hospitals contribute to endogenous, indirect-contact, and aerosol transmission of nosocomial related pathogens. Copper oxide impregnated linens have wide spectrum antimicrobial, antifungal and antiviral properties. Our aim was to determine if replacing non-biocidal linens to biocidal copper oxide impregnated linens would reduce the rates of healthcare-associated infections (HAI) in a long-term care ward.

Methods: We compared the rates of HAI in two analogous patients’ cohorts in a head injury care ward in two 6-months parallel periods before (Period A) and after (Period B) replacing all the regular non-biocidal linens and personnel uniforms with copper oxide impregnated biocidal products.

Results: During Period B, in comparison to Period A, there was a 24% reduction in the HAI per 1000 hospitalization days (HD) (P<0.05), a 47% reduction in the number of fever days (>38.5°C) per 1000 HD (P<0.01), and a 32.8% reduction in total number of days of antibiotics administration per 1000 HD (P<0.0001). Accordingly there was a 19.8% and 25% reduction of antibiotics and disposable products expenses per 1000 HD, respectively, during period B.

Gadi Borkow, J Microb Biochem Technol 2013, 5:4
http://dx.doi.org/10.4172/1948-5948.S1.009
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