

TITLE: DISINFECTION OF HOSPITAL SURFACES: COMPARATIVE EVALUATION OF THE EFFICACY OF PRODUCTS FOR MICROBIAL REMOVAL

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ABSTRACT:

Hospital infections are frequent causes of complications for patients, generating high costs and with an impact on public health. Guidance on basic prevention measures are flawed including (1) incorrectly prepared professionals perform the task; (2) some products are ineffective; and (3) control methods are inadequate, among others. The present study evaluated and compared the efficacy of new products used to clean and disinfect surfaces in the Intensive Care Unit of a health care institution. Fifteen beds were chosen for a disinfection protocol after 10 minutes of contact; five were cleaned using SHINE® ammonium quaternary, five using DESINFECT VITAL® and five using ozonated water, totaling 25 surfaces for each. The hospital hygiene procedure used Microfiber cloths (3M®). RODAC™ plates were used to collect samples before and after disinfection using the products. A quadrant was defined on the treated surfaces (pendant, bedside rail, accessory table, bedside stand and monitors), imprints were made, and the plates incubated for microbiological analysis. The ozonated water was prepared using the following equipment: ozone generator (OZONLIFE®) with production capacity of 0.3 grams of ozone per hour coupled to an oxygen generator (ever flo - WHITE MARTINS® model) with 1 L/minute flow and 1.6 L of water with 2.0 ppm-mg/L of ozone. All surfaces except for four were initially contaminated by microbes (n = 71). Complete removal of the microorganisms occurred in 56% of treated surfaces with disinfectant SHINE®, 29% with DESINFECT VITAL® and 25% with ozonated water. The results observed regarding the biocidal effect of the new products allow us to infer that new protocols of hospital hygiene and disinfection could be created. However, the biocide potential of SHINE® is notable, due to efficacy of microbial removal.

Keywords: disinfection; hospital infection; ozonated water; ammonium quaternary