

ORAL PRESENTATION

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Reduced rate of MDROs after introducing 'water-free patient care' on a large intensive care unit in the Netherlands

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Introduction

Environmental contamination of the patient surroundings is considered of importance in acquiring hospital-associated infections. Sinks and the proximity of water in the patient zone are associated with outbreaks.

Objectives

To evaluate whether multi-drug resistant organism (MDRO) colonization was reduced after removal of sinks from the intensive care unit (ICU) patient rooms.

Methods

In the summer of 2014, sinks were removed from all patient rooms at all intensive care units and a water-free method of patient care was introduced.

We conducted a retrospective clinical intervention study and included all patients who were admitted to the ICU during a 6-month pre-intervention and a 6-month post intervention period. We analysed microbiological data of cultures that were collected during the study period. The main outcome of this study was MDR Gram-negative bacteria colonization. These rates were calculated as the number of positive culture results for each pathogen per 1000 ICU admission days.

Results

During the pre-intervention period, 815 patients were admitted to the ICU, with a total of 3603 admission days. In the post-intervention period, 762 patients were admitted to the ICU, accounting for 3386 admission days. On admission to the ICU, the overall colonisation rate with Gram-negative rods in the pre-intervention period

was similar to the post-intervention period. However, when limiting the analysis to positive results of cultures collected at least 2, 5, 7, 10 or 14 days after admission, a large statistically significant difference was demonstrated between the pre and post intervention period. When focussing on the typical hospital pathogens (including MDROs) the difference between pre- and post-intervention was even more apparent, with a rate ratio of 0.44 (95% CI 0.22-0.86; P=0.01).

Conclusion

The removal of sinks from the patient rooms and the introduction of 'water-free patient care' resulted in a significant reduction of colonization with MDR Gram-negative bacteria. The effect on colonization is most evident in patients admitted for longer periods at the ICU.

Disclosure of interest

None declared.

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