

Reduction Of Carbapenem-resistant Enterobacteriaceae (CRE) Infections And Total Polymyxin B Usage After Implementing A Comprehensive Infection Control Strategy In Colombia

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1 Introduction

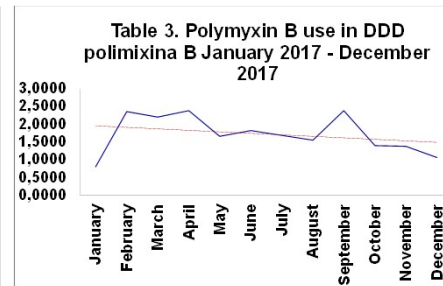
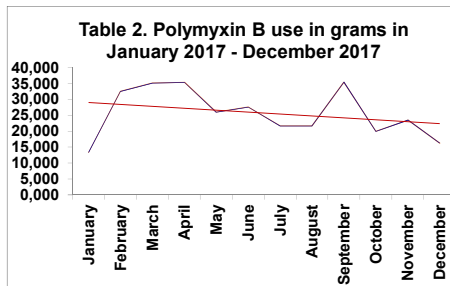
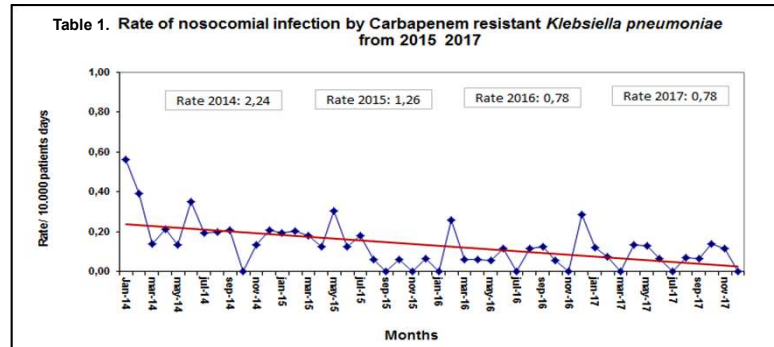
Colombia is an endemic country for Carbapenem-resistant Enterobacteriaceae (CRE) infections, which explains the high rate of hospital-acquired infections caused by these microorganisms. In the setting of a septic patient with suspected nosocomial infection, there is a high use of antibiotics such as carbapenems, colistin and polymyxin B. Implementing a comprehensive infection control strategy may reduce CRE-infection rates and lower the use of these antibiotics.

2 Methods

Since 2014, a comprehensive Infection control strategy was implemented at one of the most important university hospital in Colombia. This strategy was defined as: (1) Patients usage of daily chlorhexidine baths (any of the two available presentation: 4% soap or 2% pads) throughout the different units of the hospital (intensive care and medical/surgical wards); (2) Prohibiting the usage moisturizing skin creams for patients and visitors; (3) Screening of CRE-colonization in high risk patients through peri-rectal swabs; (4) Contact isolation precautions of all CRE-colonized or infected patients. The main objective was to evaluate the effectiveness of this strategy by comparing the reduction in annual nosocomial infection rate caused by CRE. The secondary objective was to identify the pattern of the daily dose (DDD) of polymyxin B.

3 Results

Patients admitted at the hospital were evaluated from 2014-2017. After implementing this comprehensive infection control strategy, a progressive decrease in CRE bacteremia was noted. In 2014 there was 2.24 infections per 10,000 patients-day, in 2015 there was 1.26, in 2016 there was 0.92, and in 2017 it reached 0.78 infections per 10,000 patients day respectively. This was also consistent with the findings of usage of polymyxin B in the adult population at the institution evaluated, DDD decreased from 2.36 to 1.06 grams.



4 Conclusions

Standardizing patients daily usage of chlorhexidine, limiting the use of moisturizing creams, establishing a protocol for CRE screening in high risk patients and implementing protective measures as part of the management of these patients, has proven to be effective in decreasing CRE nosocomial infections and polymyxin B usage.

5 References

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