Service Priorities and Programmes

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Effect of Chlorhexidine Bathing on Hospital-Acquired MRSA Infection

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Introduction

The topical use of chlorhexidine (CHG) reduces bacterial density on patients' skin. It is increasingly being used to prevent hospital-acquired infections and the acquisition of multidrug-resistant organisms.

Objectives

To evaluate the effect of 2% CHG bath on hospital-acquired MRSA infection in general medical wards.

Methodology

Before the implementation of this project, all patients in general medical wards were bathed with soap and water every 2 to 3 days. During the 1 year study period from July 2014 to June 2015, all known MRSA patients in four study wards with high MRSA prevalence were either bathed with 2% CHG unless contraindicated (e.g. CHG allergy). CHG lotion with rinsing was used for patients requiring room bath, CHG-impregnated body wipes were used for patients requiring bed bath. During this period, the frequency of bathing was not changed; no other new infection control measures were implemented. The incidence of hospital-acquired MRSA infection (defined as MRSA culture positive specimens collected after 48 hours of hospital admission) and bacteremia (defined as isolation of MRSA from blood cultures collected after 48 hours of hospital admission) between the study period and the previous year were compared by Poisson regression analysis.

Result

The MRSA infection rates in the four studied wards decreased from 0.702 (3Q13-2Q14) to 0.237 cases per 1000 patient-days (3Q14-2Q15) ($p<0.001$). The MRSA bacteremia rate decreased from 0.175 to 0.079 cases per 1000 patient-days (55.1% reduction, $p= 0.28$). The rates in the other medical wards were similar during before and after the study period. Our results suggest that bathing with 2% chlorhexidine significantly reduced the development of hospital-acquired MRSA infections.