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Poster Session VI

Increasing hand hygiene: new and old perspectives

EVALUATION OF THE EFFECTIVENESS OF AN INFECTION CONTROL PROGRAM IN PEDIATRIC AND NEONATAL INTENSIVE CARE UNITS: A REPORT FROM A MIDDLE INCOME COUNTRY

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Objectives: Healthcare associated infections (HCAs) in pediatric and neonatal intensive care units (ICUs) were evaluated in a university teaching hospital in a low to middle-income country to assess the effectiveness of the introduction of an infection surveillance and prevention program.

Methods: Data for HCAI, multidrug resistant pathogens and antibiotic consumption in pediatric and neonatal ICUs were collected retrospectively during 2007 and 2012. Hand hygiene was introduced in 2009. Negative binomial regression modeling with a log link was used to adjust for overdispersion in observations and the first year of observations was used as the baseline for comparing changes in incidence risk ratios over the following years.

Results: Hand hygiene compliance rates were initially low in both neonatal and paediatric ICUs (43.0% and 22.5% respectively) and improved by 2012 compliance in both neonatal (IRR 2.2; 57.2%, p<0.001) and paediatric ICU (IRR 1.9, 48.6%, p<0.001). The rate of HCAs in neonatal ICU remained stable over the surveillance period ranging from 17.95 (95%CI 14.38-22.12)/1000 patient days to 23.44 (95%CI 19.23-28.28)/1000 patient-days while the rate in paediatrics began higher, 39.28 (95%CI 32.72-46.72)/1000 patient-days, but declined significantly from 2010 onwards by 35% to 25.43 (95%CI 20.44-31.24)/1000 patient-days (p=0.002). The rate of CAUTI did not change significantly in neonatal ICU ranging from 0.0 (95%CI 0.0-47.38) to 19.32 (95%CI 5.29-48.73)/1000 catheter-days or in paediatric ranging from 3.07 (95%CI 0.8-7.83) and 14.57 (95%CI 7.78-24.79)/1000 catheter-days. CLABSI rates remained rare in neonatal ICU while rates in paediatric ICU CLABSI rates increased by 2.5 times in 2008 to 14.96 per 1000 catheter-days and by 3 times in 2009 to 19.09 per 1000 catheter-days and remained stable thereafter. The rate of VAP were similar in neonatal or pediatric ICUs and did not change significantly.

Conclusion: Commencing an infection control program with surveillance and hand hygiene in low to middle income country provides evidence-based strategic planning for the reduction of HCAI and important trend data with which to demonstrate change.