

An increased risk of death in children with nosocomial BSI can be identified by simple clinical predictors including malnutrition, admission to the PICU and use of a central line catheter” Murni et al (2018).

Abstract:

BACKGROUND: Nosocomial bloodstream infection (BSI) is associated with high mortality rates. Evaluating factors to predict mortality is important for prevention and improving clinical outcomes.

AIM: To evaluate the clinical predictors of mortality in paediatric nosocomial bloodstream infection.

METHODS: A prospective cohort study was conducted from 1 December 2010 until 28 February 2013 in a teaching hospital in Yogyakarta, Indonesia. All patients admitted consecutively to the paediatric ICU (PICU) and paediatric wards after > 48 h of hospitalisation were eligible. Patients were observed daily to identify the presence of nosocomial BSI based on Centers for Disease Control and Prevention (CDC) criteria. Patients were followed up until they were discharged or died, and predictors of mortality were identified. Logistic regression was used to identify independent predictors.

RESULTS: A total of 2646 patients were recruited, 170 developed nosocomial BSI (6.4%) and 70 of these children died (case fatality rate 41%). Nosocomial BSI was associated with increased mortality with an adjusted OR of 8.5 (95% CI 6.0-12.1). In multivariate analysis, malnutrition, admission to the PICU and use of a central line catheter were independently associated with an increased risk of death with adjusted ORs (95% CI), respectively, of 6.0 (1.6-22.6), 3.2 (1.6-6.7) and 3.1 (1.1-8.7).

CONCLUSION: The study demonstrates that significant mortality is attributable to nosocomial bloodstream infection. An increased risk of death in children with nosocomial BSI can be identified by simple clinical predictors including malnutrition, admission to the PICU and use of a central line catheter.

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Reference:

Murni, I.K., Duke, T., Daley, A.J., Kinney, S. and Soenarto, Y. (2018) Predictors of mortality in children with nosocomial bloodstream infection. Paediatrics and International Child Health. October 17th. .

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