



Epidemiologic Surveillance of Nosocomial Infections in a Pediatric Intensive Care Unit of the Hospital in Tehran

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Introduction: Nosocomial Infections (NI) are a frequent and relevant problem. The purpose of this study was to determine the epidemiology of the three most common NI in a Pediatric Intensive Care Unit of the hospital in Tehran.

Methods: We performed a prospective study in a single Pediatric Intensive Care Unit during 2 years. Children were assessed for 3 NI: bloodstream infections (BSI), ventilator-associated pneumonia (VAP) and urinary tract infections (UTI), according to Center for Disease Control criteria. Use of devices (endotracheal tube [ETT], central venous catheter [CVC] and urinary catheter [UC]) was recorded.

Results: 512 patients were admitted; 90 patients (17.5%) developed 94 NIs. Density of incidence of BSI, VAP and UTI was 18.1, 7.9 and 5.1/1000 days of use of CVC, ETT and UC respectively. BSI was more common in children with CVCs than in those without CVCs (20% vs. 4.7%, $p < 0.05$). *Candida* spp. was the commonest microorganism in BSI (41%), followed by Coagulase-negative *Staphylococcus* (17%). *Pseudomonas* (52%) was the most common germ for VAP and *Candida* (71%) for UTI. Children with NI had longer average hospital stay previous to diagnosis of this condition (12.3 vs. 6 days; $p < 0.001$).

Conclusions: One of every 6 children acquires an NI in the PICU. Its presence was associated with increased mortality and length of stay. At the same time a longer stay was associated with an increased risk of developing NI.

Key Words: Nosocomial Infections, Pediatric, Intensive Care Unit