

Abstract

CLINICAL AND ORGANIZATIONAL FACTORS ASSOCIATED WITH DELAYS IN ANTIMICROBIAL THERAPY FOR PEDIATRIC SEVERE SEPSIS AND SEPTIC SHOCK PATIENTS AT SIRIRAJ HOSPITAL

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Introduction: Pediatric severe sepsis and septic shock are common causes of morbidity and mortality in children. Timely appropriate empirical antimicrobial therapy is an essential component to improve patient's survival rate. From the recommendations, broad-spectrum antibiotics must be given within an hour to improve outcomes^[3,4]. Identifying risk factors of delayed antimicrobial therapy may provide improvement in quality of care strategies.

Objective: To identify clinical and organizational factors associated with delayed antimicrobial therapy for pediatric severe sepsis and septic shock at Siriraj hospital.

Methods: Medical records of children under 15 year-old with diagnosis of severe sepsis or septic shock in Siriraj Hospital from 1st June 2012 to 31st May 2017, were reviewed and the data were collected under permission of Institutional Review Board, Faculty of Medicine, Siriraj Hospital (SIRB). The data analysis was conducted to identify the clinical and organizational factors associated with delays in antimicrobial therapy.

Results: 178 children with severe sepsis and septic shock (62.2%) had got 1st dose of empirical antimicrobials later than 1 hour after sepsis recognition. The clinical and organizational variables that were independently associated with delay antimicrobial therapy included: immunological status; infectious source; location at diagnosis and time at diagnosis. A statistically significant factor after multivariable analysis showed that ICU (OR 3.21, 95%CI= 1.28-8.05), ward (OR 3.18, 95%CI= 1.46-6.93) and OPD (OR 1.29, 95%CI= 0.30-5.52) had longer times to antimicrobials compared with ER setting.

Conclusion: Setting at the diagnosis was the only factor that had statistically significant result.

Keywords: antimicrobial; sepsis; septic shock; factors; delay