

POSTER PRESENTATION

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The impact of organizational characteristics on the outcomes of septic patients admitted to the ICU

L Sarmet Cunha Farah Rabello^{1,2*}, F Bozza², J Kahn³, P Brasil², D Angus³, J Salluh², M Soares²,
ORCHESTRA Study Investigators

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Introduction

Critically ill septic patients have high rates of death, complications and resource use, mainly in emerging countries.

Objectives

To investigate the impact of organizational factors on the outcomes of septic patients in a large sample of Brazilian ICUs.

Methods

Retrospective cohort study in 6,779 patients with severe sepsis (n = 5,294, 78%) or septic shock (n = 1,485, 22%) directly admitted from the emergency department to 69 ICUs (private hospitals, n= 62(90%); medical-surgical; n= 57(83%)) during 2013. We retrieved demographic, clinical and outcome data from an electronic ICU quality registry (Epimed Monitor System). We surveyed ICUs using a standardized questionnaire regarding organizational aspects, staffing patterns and process of care. We used multilevel logistic regression analysis to identify factors associated with hospital mortality.

Results

38 (55%) ICUs had critical care training programs. Median graduate nurse-bed ratio was 0.23 (IQR, 0.18-0.29) and board-certified intensivists were present 24/7 in 16 (23%) of ICUs. Routine clinical rounds occurred in 59 (86%) and daily checklists were used in 34 (49%) ICUs. Sepsis protocol was implemented in 83% ICUs. The most frequent sources of infection were pulmonary

(3,536 (52%)) and urinary tract (1,283 (19%)). Invasive mechanical ventilation was used in 1,373 (20%) patients and dialysis in 289 (4%) patients. SAPS 3 score was 54 (47-62) points. ICU and hospital mortality rates were 19% and 26%. Adjusting for relevant patients' characteristics (SAPS 3 score, admission diagnosis, chronic health status, comorbidities, MV use), case-volume and type of ICU, average graduate nurse/bed ratio during shifts (OR = 0.254 (95%CI, 0.068-0.945)) and the number of other implemented protocols (OR = 0.932 (0.862-1.008)) were associated with lower mortality. In a second model, the presence of intensivist nurses 24/7 in the ICU (OR = 0.600 (0.390-0.924)) was also associated with better outcomes.

Conclusions

Nurse staff patterns and the implementation of clinical protocols were associated with mortality in septic patients and are potential targets to improve care of these patients in emerging countries.

Authors' details

¹Instituto Nacional de Cancer, Rio de Janeiro, Brazil. ²D'Or Institute for Research and Education, Rio de Janeiro, Brazil. ³University of Pittsburgh Medical Center, Pittsburgh, PA, USA.

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¹Instituto Nacional de Cancer, Rio de Janeiro, Brazil
Full list of author information is available at the end of the article