

Incidence density, etiology and mortality associated with sepsis-2 versus sepsis-3 in intensive care patients in Rio de Janeiro: single center cohort study.

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Objective: To determine the incidence density, etiology and mortality in hospital-acquired sepsis and to evaluate whether the change in sepsis criteria may have no impact on these indicators in a public tertiary ICU in Rio de Janeiro.

Methods: Retrospective observational study to apply an adaptation of the sepsis-3 criteria in a prospective cohort of all ICU patients who had blood cultures and antimicrobial treatment instituted for single or recurrent episodes of SIRS/sepsis diagnosed during the ICU stay, between August 2015 and March 2017. In addition to the delta SOFA, criteria adapted for sepsis-3 included quick SOFA performed to ICU patients without mechanical ventilation and sedation, applied 24 to 72 hours before until 24 hours after the initial blood culture.

Results: Among 342 episodes of SIRS and/or sepsis identified in 629 ICU admissions, 286 episodes of hospital-acquired sepsis were detected in 208 participants. Preliminary results in 78% (225/286) of the episodes, 92% (171/185 episodes) met the criteria for sepsis-3. Sequential information on SOFA and quick SOFA parameters were not obtained in 0.4% (1/225) and 17% (39/225), respectively. These non-evaluable episodes (n=40) were mechanically ventilated and had high SOFA scores, respectively, at admission and at the time of blood culture. The incidence density of sepsis-2 and sepsis-3 was 38.4 and 34.8/1000 patient-days, respectively, in the first year of study, excluding episodes not evaluable for the calculation of sepsis-3 (p=0.36). There was no difference between the demographic and epidemiological characteristics of the patients using both criteria. Gram-negative bacilli predominated (54% in both groups) and 30-day all-cause mortality was similar, 41% and 46%, respectively using sepsis-2 and sepsis-3 (p=0.37).

Conclusions: The incidence and mortality rates are similar to those found in Brazilian studies, but higher than those described in international studies, using the two criteria, which demonstrates the importance of the theme in our hospital and in the country. The indicators did not differ with sepsis-2 or adapted sepsis-3 criteria, which contributes to evaluate the impact of the use of the new criteria in our ICU reality.