

Documents

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Epidemiology, Management, and Outcomes of Sepsis in ICUs among Countries of Differing National Wealth across Asia
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Abstract
Rationale: Directly comparative data on sepsis epidemiology and sepsis bundle implementation in countries of differing national wealth remain sparse. Objectives: To evaluate across countries/regions of differing income status in Asia 1) the prevalence, causes, and outcomes of sepsis as a reason for ICU admission and 2) sepsis bundle (antibiotic administration, blood culture, and lactate measurement) compliance and its association with hospital mortality. Methods: A prospective point prevalence study was conducted among 386 adult ICUs from 22 Asian countries/regions. Adult ICU participants admitted for sepsis on four separate days (representing the seasons of 2019) were recruited. Measurements and Main Results: The overall prevalence of sepsis in ICUs was 22.4% (20.9%, 24.5%, and 21.3% in low-income countries/regions [LICs]/lower middle-income countries/regions [LMICs], upper middle-income countries/regions, and high-income countries/regions [HICs], respectively; P < 0.001). Patients were younger and had lower severity of illness in LICs/LMICs. Hospital mortality was 32.6% and marginally significantly higher in LICs/LMICs than HICs on multivariable generalized mixed model analysis (adjusted odds ratio, 1.84; 95% confidence interval, 1.00-3.37 P = 0.049). Sepsis bundle compliance was 21.5% at 1 hour (26.0%, 22.1%, and 16.2% in LICs/LMICs, upper middle-income countries/regions, and HICs, respectively; P < 0.001) and 36.6% at 3 hours (39.3%, 32.8%, and 38.5%, respectively; P = 0.001). Delaying antibiotic administration beyond 3 hours was the only element independently associated with increased mortality (adjusted odds ratio, 2.53; 95% confidence interval, 2.07-3.08; P < 0.001). Conclusions: Sepsis is a common cause of admission to Asian ICUs. Mortality remains high and is higher in LICs/LMICs after controlling for confounders. Sepsis bundle compliance remains low. Delaying antibiotic administration beyond 3 hours from diagnosis is associated with increased mortality. Copyright © 2022 by the American Thoracic Society.

Author Keywords
epidemiology; mortality; sepsis; sepsis bundle

Index Keywords
antibiotic agent, lactic acid, antiinfective agent; adult, aged, antibiotic therapy, Article, Asia, blood culture, confounding variable, controlled study, cross-sectional study, disease severity, female, groups by age, high income country, hospital admission, hospital mortality, human, intensive care unit, lactate blood level, low income country, major clinical study, male, middle income country, observational study, outcome assessment, point prevalence, prospective study, protocol compliance, sepsis, therapy delay, Asia, sepsis; Adult, Anti-Bacterial Agents, Asia, Hospital Mortality, Humans, Intensive Care Units, Prospective Studies, Sepsis

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