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Appropriate antibiotic treatment for patient diagnosed with sepsis in a tertiary hospital in Indonesia

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Background: Introduction: Sepsis is a severe infection and life threatening. Guidelines stipulate that obtaining blood culture and rapid administration of broad-spectrum antibiotics are two major bundles of sepsis management. Appropriate antibiotic treatment in sepsis patients has been associated with reduced mortality. Our study evaluates the appropriateness of antibiotic treatment, and the frequency of blood culture for patients diagnosed with sepsis in a tertiary hospital in Indonesia.

Methods and materials: Methods

A retrospective study collected data from adult sepsis patient diagnosed 2016 in Adam Malik Hospital, Medan, Indonesia. Antibiotic treatment was defined as appropriate if all micro-organisms in blood culture were susceptible to at least one antibiotic given; as probable if all micro-organisms in any other culture in the absence of blood culture were susceptible to at least one antibiotic given; as not appropriate if any micro-organism in blood or other culture was resistant to at least one antibiotic given; and as unknown if there were no cultures taken or none of the cultures showed growth. Analyses were stratified by ICU/non-ICU, and by community and hospital acquired sepsis.

Results: Any specimen for culture was collected 73% of the patients. Blood cultures were slightly higher frequency in ICU (58%) versus non-ICU (47%), and hospital-acquired sepsis (53%) versus community-acquired sepsis (48%,). Appropriateness of antibiotic treatment was low, 18/525 (3.4%) and 48/525 (9.1%) patients receiving probable appropriate. Appropriate antibiotic was slightly more frequent when the sepsis was hospital-acquired. One in two patients, 262/525 (49.9%) received antibiotic treatment with unknown appropriateness, of whom 143 (54.6%) because of no cultures being taken, and 119 (45.4%) because of all cultures being negative.

Conclusion: The low frequency of obtaining blood cultures, and of known appropriate antibiotic treatment for patients diagnosed with sepsis negatively impacts the management of these patients in our hospital. Requires locally relevant treatment and management guidelines that do justice to the prevailing prevalence of antimicrobial resistance.

https://doi.org/10.1016/j.ijid.2020.09.301

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Point prevalence survey on antimicrobial use in a tertiary private hospital in Malaysia

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Background: The threat of antimicrobial resistance in healthcare settings is globally recognized. To design and implement effective antimicrobial stewardship (AMS) interventions, data regarding current antimicrobial prescribing patterns is pivotal. As such, this point prevalence survey aims to determine the baseline antimicrobial prescribing patterns at Sunway Medical Centre (SunMed), with the intention to formulate strategies for appropriate antimicrobial use through AMS programmes.

Methods and materials: A consecutive 3-day cross-sectional survey was conducted in June 2019 using a convenient sampling method. The survey included all hospitalized patients of all ages from 17 non-critical care wards (total 416 beds) who were still receiving at least one oral or injectable antimicrobial at the time of the survey. Patients who were activated for discharge prior to the time of the survey and patients who admitted in daycare units and critical care units were excluded from the survey. Data was collected using a survey form modified from Global Point Prevalence Survey (PPS) tool designed by University of Antwerp, Belgium.

Results: Out of 332 patients surveyed, 162 (49%) patients were on antimicrobials. 126 (78%) patients were on 1 antimicrobial while 36 (22%) patients were on multiple antimicrobials. A total of 69 (43%) patients had culture & sensitivity (C&S) taken prior to antimicrobials administration. Of 200 prescribed antimicrobials, 184 (92%) were used empirically (62.5% medical cases and 29.5% surgical cases), while 16 (8%) were targeted therapy. Cephalosporin, beta-lactam-beta-lactamase inhibitor combinations and macrolide were the top 3 antimicrobial class prescribed (39%, 30%, 12% respectively). The antimicrobials were prescribed for community-acquired infections (54%), followed by surgical prophylaxis (33%), internal healthcare-associated infection (HAI) (7.5%), external HAI (5%) and medical prophylaxis (0.5%). The three most common anatomical sites related infection treated with antimicrobials were pneumonia and respiratory tract infections (16%), bone/joint related surgical prophylaxis (13.8%) and gastrointestinal infections (13.8%). 11 (5.5%) antimicrobials prescribed were categorized as others while 2 (1%) were completely unknown indication.

Conclusion: Our analysis indicated that the use of antimicrobials was high in SunMed, mainly empirically. There is a need to explore factors contributing to this and develop strategies for appropriate antimicrobial use through AMS programmes.

https://doi.org/10.1016/j.ijid.2020.09.302