

ABSTRACT

**Antibiotic Therapy Assessment of Patients diagnosed with Sepsis in Intermediate Care Ward of Internal Medicine Department of Dr. Soetomo General Hospital according to Gyssens Criteria**

Ronald Pratama Adiwino<sup>1</sup>, Florentina Sustini<sup>2</sup>, Hardiono<sup>3</sup>, Agung Dwi Wahyu Widodo<sup>4</sup>, Boerhan Hidajat<sup>5</sup>, Usman Hadi<sup>6</sup>

<sup>1</sup>Master Program of Tropical Medicine, Airlangga University School of Medicine, Surabaya.

<sup>2</sup>Section of Epidemiology, Department of Public Health and Preventive Medicine, Airlangga University School of Medicine, Surabaya.

<sup>3</sup>Critical Care Medicine, Department of Anesthesiology and Reanimation, Dr. Soetomo General Hospital, Surabaya.

<sup>4</sup>Department of Microbiology Dr. Soetomo General Hospital, Surabaya.

<sup>4</sup>Magister Program of Immunology, Airlangga University School of Medicine, Surabaya.

<sup>5</sup>Professor of Clinic, Infection Prevention and Control, Department of Pediatric, Dr. Soetomo General Hospital Surabaya.

<sup>6</sup>Professor of Clinic, Section of Infectious Diseases and Tropical Medicine, Department of Internal Medicine, Dr. Soetomo General Hospital Surabaya.

**Background:** Rational empirical antimicrobial therapy is an important component of sepsis patient management. This study aimed to assess the rationality of empirical antimicrobial therapy in patients diagnosed with sepsis admitted in intermediate care ward of internal medicine department (RPI) of Dr. Soetomo General Hospital from January 2016 to July 2017.

**Methods:** Medical records of 91 patients diagnosed with sepsis were collected and studied retrospectively in period from July 2017 to November 2017. 91 (85.05%) medical records from 107 sepsis patients were evaluated. Empirical antibiotic therapies for these patients were assessed by an expert reviewer according to Gyssens method.

**Results:** 73 (80.2%) of 91 patients were deemed receiving appropriate empirical antibiotic therapies. Ceftriaxone IV injection as monotherapy or combination therapy were the most common empirical antibiotic therapies (82 in 91 patients, 90.1%), despite local microbiologic flora and antibiogram show most pathogens were resistant to ceftriaxone. Cultures and antimicrobial sensitivity tests were carried out in 21 (23.07%) patients from 91 patient, both from blood and urine specimens. 17 (80.95%) from 21 test results were positive, with 11 isolates of gram negative bacteria (mostly from urine specimen) and 6 isolates of gram positive bacteria. 8 from 17 (47.06%) positive culture results showed MDRO positive, most common isolates are *Klebsiella pneumonia* ESBL + and *Escherichia coli* ESBL +. Mortality rate in this study was high, 92.3% (84 patients died) despite rational empirical antibiotic therapies were high.

**Conclusion:** This study concluded that high mortality finding might be due to implementation of outdated local current guidelines for antibiotic therapies in sepsis patients adopted in Soetomo General Hospital, albeit categorized as rational therapies according to Gyssens method, was no longer appropriate according to local antibiogram issued by microbiological department of Soetomo General Hospital.

**Keywords:** *Empirical Antibiotics Therapy, Intermediate Care Ward, Sepsis, Septic Shock, Gyssens criteria.*