

# Keberhasilan pengobatan pneumonia komunitas rawat inap dengan empirical antibiotic treatment (EAT) dan pathogen directed treatment (PDT) di RSUP Persahabatan Tahun 2021 dan 2022. = Successful treatment of inpatient community-acquired pneumonia with empirical antibiotic treatment (EAT) and pathogen-directed treatment (PDT) at National Respiratory Center, Persahabatan Hospital in 2021 and 2022.

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## Abstrak

Latar Belakang : Data World Health Organization (WHO) tahun 2019 menunjukkan infeksi saluran napas bawah menjadi penyebab kematian keempat di dunia dengan angka kematian 6.1%. Pneumonia merupakan salah satu infeksi saluran napas bawah yang disebabkan oleh mikroorganisme. Jenis pneumonia yang banyak di masyarakat adalah pneumonia komunitas. Tingginya angka kejadian pneumonia komunitas yang disebabkan oleh bakteri menyebabkan meningkatnya kebutuhan antibiotik sebagai pengobatan. Pemberian antibiotik dapat berupa empirical antibiotic treatment (EAT) atau pathogen-directed treatment (PDT). Penelitian ini bertujuan untuk melihat keberhasilan pengobatan pasien pneumonia komunitas rawat inap dengan EAT atau PDT.

Metode : Penelitian ini merupakan penelitian observasional menggunakan desain kohort retrospektif dengan pengambilan data rekam medis di RSUP Persahabatan. Subjek penelitian ini adalah pasien pneumonia komunitas rawat inap periode 1 Januari 2021 hingga 31 Desember 2022. Pemilihan sampel menggunakan metode total sampling.

Hasil : Subjek penelitian terdiri dari 220 pasien EAT dan 62 pasien PDT. Mayoritas bakteri yang ditemukan pada biakan sputum adalah gram negatif (82%) dengan jenis terbanyak adalah *Klebsiella pneumoniae* (29.3%), *Acinetobacter baumannii* (16.7%) dan *Escherichia coli* (15.3%). Antibiotik terbanyak pada EAT adalah levofloksasin (87.3%) dan pada PDT adalah meropenem (34%). Keberhasilan pengobatan pasien dengan EAT sebesar 74.5% yang dipengaruhi oleh skor PSI (OR 5.318 (IK 95% 2.046 - 13.820,  $p < .001$ ), lama perawatan (OR 1.949 (IK 95% 1.043 - 3.641,  $p = 0.035$ ) dan riwayat penggunaan ventilator (OR 29.364 (IK 95% 12.80 - 67.34,  $p < .001$ ). Keberhasilan pengobatan pasien dengan PDT sebesar 46.8% yang dipengaruhi oleh riwayat penggunaan ventilator (OR 9.615 (IK 95% 2.712-34.08,  $p < .001$ ) dan hasil biakan sputum *Acinetobacter baumannii* (OR 2.608 (IK 95% 1.089 - 6.246),  $p = 0.028$ ).

Kesimpulan : Keberhasilan pengobatan pasien dengan EAT sebesar 74.5% dipengaruhi oleh skor PSI, lama perawatan dan riwayat penggunaan ventilator. Keberhasilan pengobatan pasien dengan PDT sebesar 46.8% dipengaruhi oleh riwayat penggunaan ventilator dan biakan sputum *Acinetobacter baumannii*.

.....Background: Data from the World Health Organization (WHO) in 2019 shows that lower respiratory tract infections are the fourth cause of death in the world with a mortality rate of 6.1%. Pneumonia is a lower respiratory tract infection caused by microorganisms. The type of pneumonia that is common is community-acquired pneumonia. The high incidence of community-acquired pneumonia caused by bacteria causes an increased need for antibiotics as treatment. Antibiotics can be given as empirical antibiotic treatment (EAT) or pathogen-directed treatment (PDT). This study aims to see the success rate of inpatient community-acquired pneumonia with EAT or PDT.

**Methods :** This study was an observational study using a retrospective cohort design by collecting medical record data at Persahabatan Hospital. The subjects of this study were inpatient community-acquired pneumonia patients for the period January 1, 2021 to December 31, 2022. The total sampling method was selected for the study.

**Results :** The subjects in this study consisted of 220 EAT patients and 62 PDT patients. The majority of bacteria found were gram-negative (82%) with the most common types were *Klebsiella pneumonia* (29.3%), *Acinetobacter baumannii* (16.7%) and *Escherichia coli* (15.3%). The most antibiotics in EAT was levofloxacin (87.3%) and in PDT was meropenem (34%). The success rate of patients with EAT was 74.5%, which was affected by PSI score (OR 5.318 (IK 95% 2.046 - 13.820,  $p < .001$ ), length of stay (OR 1.949 (IK 95% 1.043 - 3.641,  $p = 0.035$ ) and history of ventilator use (OR 29.364 (IK 95% 12.80 - 67.34,  $p < .001$ ). The success rate of PDT was 46.8%, influenced by the history of ventilator use (OR 9.615 (IK 95% 2.712-34.08,  $p < .001$ ) and *Acinetobacter baumannii* in sputum culture (OR 2.608 (IK 95% 1.089 - 6.246),  $p = 0.028$ ).

**Conclusions :** The success rate of patients with EAT was 74.5%, influenced by PSI score, length of stay and history of ventilator use while those with PDT were 46.8%, influenced by the history of ventilator use and *Acinetobacter baumannii* in sputum culture.