

ABSTRACT

BACTERIAL PATTERNS AND ANTIBIOTIC SUSCEPTIBILITY IN COMMUNITY-ACQUIRED AND NOSOCOMIAL PNEUMONIA PATIENTS IN THE INTENSIVE CARE UNIT OF DR. H. ABDUL MOELOEK REGIONAL GENERAL HOSPITAL, BANDAR LAMPUNG, JANUARY 2021–DECEMBER 2024

By

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Background: Pneumonia is a major cause of morbidity and mortality in intensive care units, largely due to the dominance of Gram-negative bacteria with high antibiotic resistance. Local data on bacterial patterns and antibiotic susceptibility at RSUD Dr. H. Abdul Moeloek remain limited, yet are essential for guiding appropriate empiric therapy.

Methods: This descriptive cross-sectional study used total sampling of patients with community-acquired pneumonia (CAP) and nosocomial pneumonia (HAP and VAP) treated in the intensive care units from January 2021 to December 2024. Data were obtained from medical records, culture results, and antibiotic susceptibility testing, and analyzed descriptively.

Results: A total of 87 patients met the criteria (10 CAP, 15 HAP, 62 VAP). Gram-negative bacteria predominated, particularly *Klebsiella pneumoniae* (31%), *Pseudomonas aeruginosa* (11%), *Acinetobacter baumannii* (11%), and *Escherichia coli* (11%). Other pathogens such as *Enterococcus faecium*, *Staphylococcus hominis*, and *Staphylococcus aureus* were found in smaller numbers. Gram-negative isolates showed high resistance to cephalosporins, while relatively better sensitivity was observed for amikacin and tigecycline. *A. baumannii* and *P. aeruginosa* demonstrated higher resistance compared to *Enterobacteriaceae*.

Conclusions: : Pneumonia cases in the intensive care units of RSUD Dr. H. Abdul Moeloek were dominated by highly resistant Gram-negative bacteria, particularly in nosocomial infections. These findings highlight the need for empiric antibiotic selection based on local pathogen patterns and for strengthening antimicrobial stewardship programs to limit resistance.

Keywords: antibiotic susceptibility, bacterial pattern, CAP, HAP, intensive care unit, pneumonia, VAP.

ABSTRAK

POLA BAKTERI DAN SENSITIVITAS ANTIBIOTIK PADA PASIEN PNEUMONIA KOMUNITAS DAN NOSOKOMIAL DI RUANG PERAWATAN INTENSIF RSUD DR. H. ABDUL MOELOEK BANDAR LAMPUNG PERIODE JANUARI 2021–DESEMBER 2024

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Latar Belakang: Pneumonia merupakan penyebab penting morbiditas dan mortalitas di ruang perawatan intensif, terutama akibat dominasi bakteri Gram-negatif dengan resistensi antibiotik tinggi. Data lokal mengenai pola bakteri dan sensitivitas antibiotik di RSUD Dr. H. Abdul Moeloek masih terbatas sehingga diperlukan untuk mendukung terapi empiris yang tepat.

Metode: Penelitian deskriptif *cross-sectional* ini menggunakan total sampling terhadap pasien pneumonia komunitas (CAP) dan nosokomial (HAP dan VAP) yang dirawat di ruang perawatan intensif periode Januari 2021–Desember 2024. Data diambil dari rekam medis, hasil kultur, dan uji sensitivitas antibiotik, lalu dianalisis secara deskriptif.

Hasil Sebanyak 87 pasien memenuhi kriteria (10 CAP, 15 HAP, 62 VAP). Bakteri Gram-negatif mendominasi, terutama *Klebsiella pneumoniae* (31%), *Pseudomonas aeruginosa* (11%), *Acinetobacter baumannii* (11%), dan *Escherichia coli* (11%). Patogen lain seperti *Enterococcus faecium*, *Staphylococcus hominis*, *Staphylococcus aureus*, dll ditemukan dalam jumlah kecil. Pola sensitivitas antibiotik bakteri Gram-negatif menunjukkan resistensi tinggi terhadap cephalosporin, sedangkan sensitivitas yang relatif lebih baik ditemukan pada antibiotik amikacin, dan tigecycline. *Acinetobacter baumannii* dan *Pseudomonas aeruginosa* cenderung lebih resisten dibandingkan *Enterobacteriaceae*.

Kesimpulan: Pneumonia di ruang perawatan intensif RSUD Dr. H. Abdul Moeloek didominasi oleh bakteri Gram-negatif dengan tingkat resistensi tinggi pada kasus nosokomial. Hasil penelitian ini menegaskan perlunya pemilihan antibiotik empiris yang sesuai dengan pola kuman lokal serta penguatan program *antimicrobial stewardship* untuk mencegah peningkatan resistensi.

Kata Kunci: CAP, HAP, pneumonia, pola bakteri, ruang rawat intensif, sensitivitas antibiotik, VAP.