

ABSTRACT

Background: *Pneumonia can be caused by bacteria, viruses, fungi, or parasites. Sputum culture is utilized to identify the bacterial pathogens responsible for respiratory infections and their antibiotic sensitivity patterns. Bacterial resistance to various antibiotics, such as those with Multidrug-Resistant (MDR) and Extended-Spectrum Beta-Lactamase (ESBL) characteristics, poses a serious global health threat. This study aims to identify bacterial types and antibiotic sensitivity patterns of the predominant pathogens found in sputum cultures of pneumonia patients at RSUD Raden Mattaher, Jambi Province, in 2023.*

Methods: *This descriptive study employed a cross-sectional design and was conducted retrospectively. The study included 39 samples meeting inclusion and exclusion criteria, collected using a total sampling technique. Data were obtained from secondary sources, including medical records and microbiology chart reports of pneumonia patients undergoing sputum culture examinations at the microbiology laboratory of RSUD Raden Mattaher in 2023. The collected data were analyzed using SPSS software.*

Results: *The study found that the majority of pneumonia cases at RSUD Raden Mattaher requiring sputum culture occurred in the 46–55 age group (23%) and were predominantly male (61.5%). The most common type of pneumonia identified was Community-Acquired Pneumonia (CAP) (41%), and 66.7% of patients underwent Endotracheal Tube (ETT) placement during treatment. The most frequently isolated bacterial pathogen was *Klebsiella pneumoniae* (38.5%), of which 93.33% were MDR strains and 66.67% were ESBL strains. The highest antibiotic sensitivity for *Klebsiella pneumoniae* was observed with Amikacin (86.7%).*

Conclusion: *The most commonly identified bacteria in sputum cultures of pneumonia patients was *Klebsiella pneumoniae*, with 93.33% being MDR strains and 66.67% being ESBL strains. Amikacin was found to be the most effective antibiotic against *Klebsiella pneumoniae*.*

Keywords: *Pneumonia, Sputum Culture, Antibiotic Susceptibility*

ABSTRAK

Latar belakang: Pneumonia dapat disebabkan oleh bakteri, virus, jamur, atau parasit. Kultur sputum digunakan untuk mengidentifikasi bakteri penyebab infeksi saluran napas dan pola sensitivitasnya terhadap antibiotik. Resistensi bakteri terhadap berbagai antibiotik, seperti bakteri dengan *Multidrug-Resistant* (MDR) dan *Extended-Spectrum Beta-Lactamase* (ESBL), menjadi ancaman serius bagi kesehatan global. Penelitian ini bertujuan untuk mengidentifikasi jenis bakteri dan pola sensitivitas antibiotik pada bakteri penyebab terbanyak pada kultur sputum pasien pneumonia di RSUD Raden Mattaher Provinsi Jambi Tahun 2023.

Metode: Penelitian ini menggunakan penelitian deskriptif dengan rancangan potong lintang (*cross sectional*) dan dilakukan secara retrospektif. Subjek penelitian, terdiri dari 39 sampel yang memenuhi kriteria inklusi dan eksklusi, dan pengambilan sampel menggunakan teknik total sampling. Instrumen yang digunakan adalah data sekunder berupa Rekam Medik dan *Microbiology Chart Report* pada pasien pneumonia yang melakukan pemeriksaan kultur sputum di Laboratorium mikrobiologi RSUD Raden Mattaher Provinsi Jambi pada tahun 2023. Data yang terkumpul dianalisis menggunakan aplikasi SPSS.

Hasil: Penelitian menunjukkan bahwa usia paling banyak yang menderita Pneumonia di RSUD Raden Mattaher yang melakukan kultur sputum ialah pada rentang 46-55 tahun (23%), jenis kelamin paling banyak ialah pada Laki-laki (61,5%). Jenis pneumonia paling banyak ditemukan ialah Community-Acquired Pneumonia (CAP) (41%), serta jumlah pasien yang dilakukan pemasangan *Endotracheal Tube* (ETT) selama proses perawatan ialah sebanyak 66,7%. Bakteri penyebab terbanyak ialah *Klebsiella pneumonia* (38,5%) yang dimana 93,33% merupakan *Klebsiella pneumonia* jenis MDR dan 66,67% merupakan *Klebsiella pneumonia* jenis ESBL. Antibiotik Amikacin menunjukkan sensitivitas tertinggi yaitu 86,7% pada *Klebsiella pneumoniae*.

Kesimpulan: Jenis Bakteri yang paling banyak ditemukan pada kultur sputum pasien pneumonia adalah *Klebsiella pneumonia* yang dimana 93,33% merupakan jenis MDR dan 66,67% merupakan jenis ESBL dan paling sensitif terhadap antibiotik Amikasin.

Kata Kunci: Pneumonia, Kultur Sputum, Sensitivitas Antibiotik