KEJADIAN RESISTENSI ANTIBIOTIKA SEFALOSPORIN GENERASI KETIGA DARI BAKTERI PENYEBAB INFEKSI NOSOKOMIAL DI RSUD DR. H. CHASAN BOESOIRIE TERNATE

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ABSTRAK

Latar Belakang: Infeksi nosokomial atau *Healthcare Associated Infections* (HAIs) adalah infeksi yang terjadi pada pasien selama perawatan di rumah sakit dan menjadi masalah kesehatan serius di seluruh dunia, termasuk Indonesia. Infeksi ini, yang sering disebabkan oleh bakteri seperti *Escherichia coli*, *Pseudomonas aeruginosa* dan *Klebsiella pneumoniae*, berkontribusi terhadap tingginya angka morbiditas dan mortalitas, terutama karena munculnya bakteri yang resisten terhadap berbagai antibiotika. Di Indonesia, penggunaan antibiotika golongan sefalosporin generasi ketiga sangat umum di rumah sakit, namun juga meningkatkan risiko resistensi. RSUD Dr. H. Chasan Boesoirie, sebagai rumah sakit terbesar di Maluku Utara, menghadapi tantangan serupa dengan tingginya penggunaan antibiotika ini.

Tujuan: Untuk memperoleh data yang terkait kejadian resistensi antibiotika golongan sefalosporin generasi ketiga oleh bakteri penyebab infeksi nosokomial di RSUD Dr. H. Chasan Boesoirie Ternate.

Metode: Jenis penelitian berupa jenis deskriptif observasional *cross sectional* dengan eksperimental laboratorium menggunakan metode difusi agar. Sampel klinis diperoleh dari pasien rawat inap periode Maret 2024-Mei 2024. Data yang dikumpulkan meliputi diagnosis infeksi dan pasien rawat inap ≥ 3 hari.

Hasil: . Hasil dari 30 sampel klinis didapatkan resistensi antibiotika sefalosporin generasi ketiga paling banyak ditemukan pada bakteri *Klebsiella pneumoniae* 43,4%, *Pseudomonas aeruginosa* 33,3% dan *Escherichia coli* 23,3%. Hasil uji resistensi antibiotika hampir seluruhnya resisten. Ceftazidime 100% dikatakan resistensi, kemudian disusul Cefotaxime sebanyak 96,7% dan Cefteriaxone 93,3% resistensi

Simpulan: Bakteri penyebab infeksi nosokomial di RSUD Dr. H. Chasan Boesoirie Ternate telah mengalami resistensi antibiotika sefalosporin generasi ketiga

Kata kunci : Resistensi, Antibiotika, Sefalosporin, Bakteri, Infeksi nosokomial

INCIDENCE OF THIRD-GENERATION CEPHALOSPORIN RESISTANCE IN BACTERIA CAUSING NOSOCOMIAL INFECTIONS AT DR. H. CHASAN BOESOIRIE HOSPITAL, TERNATE

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ABSTRACT

Introduction: Nosocomial infections, also known as Healthcare-Associated Infections (HAIs), are infections that develop in patients during hospitalization and pose a significant health challenge worldwide, including in Indonesia. These infections are often caused by bacteria such as *Escherichia coli*, *Pseudomonas aeruginosa*, and *Klebsiella pneumoniae*, leading to high morbidity and mortality rates, particularly due to the rise of antibiotic-resistant strains. In Indonesia, third-generation cephalosporins are widely used in hospitals, which increases the risk of developing resistance. Dr. H. Chasan Boesoirie Regional Hospital, the largest healthcare facility in North Maluku, faces similar challenges due to the prevalent use of these antibiotics.

Aim: To collect data on the incidence of resistance to third-generation cephalosporin antibiotics in bacteria responsible for nosocomial infections at Dr. H. Chasan Boesoirie Hospital in Ternate.

Methods: This study is a descriptive observational cross-sectional research involving laboratory experiments using the agar diffusion method. Clinical samples were collected from inpatients between March 2024 and May 2024. The data gathered included infection diagnoses and information on patients hospitalized for three or more days.

Result: The analysis of 30 clinical samples revealed that resistance to third-generation cephalosporin antibiotics was most prevalent in *Klebsiella pneumoniae* (43.4%), followed by *Pseudomonas aeruginosa* (33.3%) and *Escherichia coli* (23.3%). Nearly all antibiotic resistance tests indicated high levels of resistance, with 100% of samples resistant to ceftazidime, 96.7% to cefotaxime, and 93.3% to ceftriaxone.

Conclusion: Bacteria causing nosocomial infections at Dr. H. Chasan Boesoirie Ternate Hospital have experienced resistance to third-generation cephalosporin antibiotics.

Keywords: Antibiotics, Resistance, Cephalosporins, Bacteria, Nosocomial infection