

# **Hubungan Leukosit Esterase dan Nitrit Urin dengan Peresepan Antibiotik Empiris Pasien Infeksi Saluran Kemih Komunitas**

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## **Abstrak**

**Latar belakang :** Infeksi Saluran Kemih (ISK) adalah salah satu infeksi bakteri yang umum ditemukan di fasilitas layanan kesehatan primer dan menjadi salah satu penyebab utama pemberian antibiotik empiris. Pemberian antibiotik empiris untuk pasien ISK sering dilakukan berdasarkan gejala klinis dan hasil pemeriksaan dipstik urin.

**Tujuan :** Menganalisis hubungan LE dan nitrit urin dengan peresepan antibiotik empiris pasien ISK komunitas

**Metode:** Penelitian ini merupakan studi observasional analitik potong lintang yang dilakukan di Puskesmas Poncol dan Pandanaran di Semarang dari Maret 2024 hingga Mei 2025. Penelitian ini melibatkan pasien berusia di atas 18 tahun dengan diagnosis klinis ISK. Sampel urin dikumpulkan menggunakan metode pengambilan urin tengah aliran bersih, dan Chi-square digunakan untuk menganalisis hubungan antara LE dan nitrit dengan resep antibiotik empiris.

**Hasil:** Sebanyak 104 sampel penelitian dipelajari, dengan 60 sampel menerima antibiotik empiris. Bakteri yang paling umum ditemukan menyebabkan ISK adalah *Escherichia coli*, dengan 10 sampel (9,62%). Hasil positif LE untuk 64 sampel, sedangkan hasil positif nitrit untuk 15 sampel. 10 sampel dengan hasil LE negatif diresepkan antibiotik empiris tetapi 8 di antaranya memiliki kultur steril. Pengujian sensitivitas antibiotik menunjukkan bahwa ciprofloksasin dan nitrofurantoin masih efektif. Analisis bivariat LE dan nitrit pada resep antibiotik menunjukkan korelasi yang signifikan.

**Kesimpulan :** Terdapat hubungan antara LE dan nitrit urin dengan peresepan antibiotik empiris pasien ISK komunitas.

**Kata kunci :** peresepan antibiotik empiris, dipstik urin, ISK komunitas

# ***Correlation between Leucocyte Esterase and Urinary Nitrite with Empirical Antibiotics Prescription in Patients with Community Acquired Urinary Tract Infections***

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## ***Abstract***

***Background:*** Urinary Tract Infections (UTIs) are a common bacterial infection in primary healthcare facilities and are a major reason for empirical antibiotic prescriptions. Empirical antibiotic prescriptions for UTI patients are often based on clinical symptoms and urine dipstick results.

***Objective:*** To analyze the correlation between urinary Leucocyte Esterase (LE) and nitrite result with empirical antibiotic prescription in community-acquired UTI patients.

***Method :*** This study was an analytical observational cross-sectional study conducted at Poncol and Pandanaran Primary Health Centers in Semarang from March 2024 to May 2025. It included patients over 18 with a clinical diagnosis of UTI. Urine samples were collected using the clean-catch midstream urine method, and Chi-square was used to analyze the relationship between LE and nitrite with empirical antibiotic prescriptions.

***Results:*** A total of 104 study samples were studied, with 60 receiving empirical antibiotics. The most common bacteria found to cause UTI was *Escherichia coli*, with 10 samples (9.62%). LE positive results for 64 samples, while nitrite positive results for 15 samples. 10 samples with negative LE results were prescribed empirical antibiotics but 8 of them had sterile cultures. Antibiotic susceptibility testing showed that ciprofloxacin and nitrofurantoin were still effective. Bivariate analysis of LE and nitrite on antibiotic prescriptions showed significant correlation.

***Conclusion:*** There is correlation between urinary LE and nitrite result with empirical antibiotic prescriptions in community-acquired UTI patients.

***Keywords :*** empirical antibiotics prescription, dipstick urine, Community Acquired UTI