

# Antimicrobial susceptibility and resistance profiling of uropathogens to Fosfomycin and Ciprofloxacin in patients visiting tertiary care hospitals of Peshawar

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**ABSTRACT Background:** Urinary tract infections (UTIs) are amongst the most common infections encountered globally and are usually treated empirically based on bacterial resistance to antibiotics for a given region. **Aim:** To determine the antimicrobial susceptibility pattern of Fosfomycin and Ciprofloxacin against uropathogens in patients visiting tertiary care hospitals of Peshawar. **Settings:** The study was carried out at Department of Pathology, Khyber Medical College/Khyber Teaching Hospital and Rehman Medical College, Peshawar. **Methodology:** This was a prospective cross-sectional study using consecutive sampling of patients with clinical symptoms of UTI. From February to June 2019, bacteria isolated from urine specimens of both inpatient and outpatients with pyuria were evaluated for susceptibility to Ciprofloxacin and Fosfomycin. Midstream urine samples were cultured on MacConkey and Cysteine Lactose Electrolyte Deficient (CLED) media. The isolated uropathogens underwent antimicrobial susceptibility testing as per CLSI guidelines. **Results:** Among 820 uropathogens isolated, gram-negative bacilli were identified in 549 (66.9%) of the samples, while gram positive cocci were found only in 271 (33.0%) of the isolates. Invitro susceptibility testing of uropathogens against Fosfomycin and Ciprofloxacin revealed that 811 (98.9%) of the isolates were susceptible to Fosfomycin and 136 (16.6%) were susceptible to Ciprofloxacin. Resistance to Fosfomycin and Ciprofloxacin was observed in 9 (1.1%) and 684 (83.4%) of the isolates respectively. **Conclusion:** The uropathogens in both medical facilities had higher susceptibilities to Fosfomycin as compared to Ciprofloxacin