**Original article:**

**Antibiotic resistance patterns of community-acquired urinary tract infections in a Tertiary care teaching hospital, Hyderabad**

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### Abstract

#### Background : Urinary tract infections (UTIs) remain the common infections diagnosed in outpatients as well as hospitalized patients. Current knowledge on antimicrobial susceptibility pattern is essential for appropriate therapy. Extended-Spectrum beta-Lactamase (ESBL) producing bacteria may not be detected by routine disk diffusion susceptibility test, leading to inappropriate use of antibiotics and treatment failure. The aim of this study was to determine the distribution and antibiotic susceptibility patterns of bacterial strains isolated from patients with community acquired urinary tract infections (UTIs) at Owaisi hospital in Hyderabad as well as identification of ESBL producers in the population of different uropathogens.

#### Methods : Urinary isolates from symptomatic UTI cases attending the Owaisi Hospital at Hyderabad were identified by conventional methods. Antimicrobial susceptibility testing was performed by Kirby Bauer's disc diffusion method. Isolates resistant to third generation cephalosporin were tested for ESBL production by double disk synergy test method.

#### Results : Of the 920 tested sample 100 samples showed growth of pathogens among which the most prevalent were E. coli (61%) followed by Klebsiella spp (22%). The majority (66.66%) of the isolates were from female while the remaining were from male. Among the gram-negative enteric bacilli high prevalence of resistance was observed against ampicillin and co-trimoxazole. Most of the isolates were resistant to 4 or more number of antibiotics. Forty two percent of isolates were detected to produce ESBL among which 34.42 % were E. coli isolates.

#### Conclusion :This study revealed that E. coli was the predominant bacterial pathogen of community acquired UTIs in Hyderabad, India. It also demonstrated an increasing resistance to Co-trimoxazole and production of extended spectrum β-lactamase among UTI pathogens in the community. This study is useful for clinician in order to improve the empiric treatment.

**Keywords:** Urinary tract infections (UTIs), Extended-Spectrum beta-Lactamase (ESBL)

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