

# Etiological profile and antimicrobial sensitivity in 1740 urinary infections of the community in the city of Córdoba, Argentina

## Abstract

**Introduction:** Urinary tract infections (Uti) are one of the most common infections that affect humans throughout their lives and are a common health problem both at the community and at the nosocomial level. Knowing microbiological characteristics, sensitivity profile and risk factors allow to optimize the management of Uti minimizing the increase of antibiotic resistance (AR) and establishing early treatments to reduce the morbidity and severity of infection. This study aims to establish which microorganisms are responsible for urinary tract infections in our community and determine their AR.

**Patients and methods:** An observational, descriptive, cross-sectional, retrospective study of all patients with the first episode of UTI recorded at the Sanatorio Allende in the city of Córdoba, Argentina, who were requested to undergo urine culture (URC), from January 2016 to December 2017.

**Results:** 3636 positive URC were analyzed, of which 1740 met the inclusion criteria. Of the total analyzed 90.2 % (n=1570) were female. The average age was 37.8 years (SD=15.2). *Escherichia coli* was the microorganism most frequently isolated in 80.3% followed by *S. saprophyticus* in 8.0%. The age group of 18-30 years (40.1%) showed the highest proportion of microorganisms, where we observed the highest prevalence of *E. coli* and *S. saprophyticus*. The following acquired resistances were obtained from the total isolations: 47.6% of the microorganisms were resistant to ampicillin, 29.6% to cotrimoxazole, 15.2% to ciprofloxacin, 4.6% to first generation of

cephalosporins, 3.4% to cefixime, 2.3% to amoxicillin-clavulanic, 1,2% to gentamicin and 1% to nitrofurantoin.

**Conclusion:** E. Coli was the most prevalent pathogen in our environment, with high rates of resistance to ampicillin, fluoroquinolones and trimethoprim-sulfamethoxazole, confirming the need for periodic studies to determine the most optimal empirical antibiotic treatment.

**Keywords:** Antimicrobial resistance; Betalactamasas de espectro extendido; Extended spectrum beta-lactamases; Infecciones urinarias; Resistencia antimicrobiana; Urinary tract infections.

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