

Antibiotics for suspected urinary tract infections in the emergency department, how are we doing?

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Background:

Urinary tract infection (UTI) is a major public health issue that affects millions of people each year, and a common reason for hospital admission and Emergency Department (ED) visits. ED is a common yet crucial setting for antibiotic prescription. Unfortunately, antibiotic therapies that are unnecessarily prescribed continue to contribute to the global issue of bacterial resistance. Our study aims to determine the prevalence and reasons for inappropriate antibiotic use for UTI in the ED, to highlight the most commonly prescribed antibiotic, and to define the most sensitive antibiotic and most common pathogen based on urine cultures.

Methods:

A retrospective cohort review conducted at King Fahad University Hospital in Al Khobar, eastern province of Saudi Arabia. Data was collected during the duration of 2017 – 2022 from electrical medical records for all patients who had a urinalysis and urine culture in the ED and were managed as outpatients. Antibiotic prescription was considered Inappropriate if: Asymptomatic patient, Negative urinalysis, Negative or contaminated urine culture or Prescribed antibiotic did not demonstrate sensitivity to the tested bacteria. R-Jamovi software (version 2.3, 2022) was used for analysis.

Results:

The total sample included 2531 patients. 70.4 % (n= 1781) were females. The most common age group was adults (from 15- 63 years old. Dysuria was the most reported symptom, representing 28.3 % (n = 606). Only ~ 21% of the prescribed antibiotics were appropriate (P< 0.001). The most common reason for inappropriateness was that the tested antibiotic was not sensitive to growth. Ciprofloxacin was the most commonly prescribed antibiotic, representing 34.8%. E. coli was the most common pathogen causing UTI, representing 37.5%. Gentamicin was the most sensitive antibiotic among the urine culture results, representing 90% (P <0.001)

Conclusion:

This study demonstrates a high percentage of inappropriate use of antibiotics for suspected UTI cases seen in the ED. Suggested initiatives to decrease the progression of this issue include Adapting antibiotic stewardship in the ED, creating a local antibiogram that is constantly updated, improving our daily practice by prescribing antibiotics based on previous microbial culture sensitivity results, and Patient education about the harm of over-prescription of Antibiotics.