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Relationship Between Antimicrobial Prescribing and Antimicrobial Resistance Among UTI Patients at Buraidah Central Hospital, Saudi Arabia

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Abstract

Introduction: Most of the decisions regarding diagnosis and treatment are based on laboratory test results. Urinary tract infections (UTIs) are among the most common infections in humans. The changing antimicrobial sensitivity in UTI requires appropriate antibiotics. Antimicrobial resistance is an emerging problem in the Kingdom of Saudi Arabia where the complete reversal of antimicrobial resistance is difficult due to irrational use of antibiotics. **Objectives:** This study aimed to determine the most common bacterial agents causing UTI in different seasons among patients who were admitted to Buraidah Central Hospital (BCH), Saudi Arabia. The study also evaluated the link between prescribing and resistance toward antimicrobials. **Materials and Methods:** A 6-month retrospective study was conducted among adult patients who were admitted to the inpatient department at BCH. A total of 379 files were collected from microbiological laboratory for inpatients. **Results:** Most UTI-causing bacteria prevailed in the same season. Of 15 bacterial strains, 12 were significantly correlated with 20 (of a total of 40) antibiotics that were used. Most bacteria were gram-negative. Gram-negative bacilli including *Escherichia coli*, *Klebsiella* spp., and *Pseudomonadaceae* and gram-positive *Enterococcus faecalis* were most frequently causing UTIs. **Conclusion:** Overall prevalence of antibiotic resistance was negative in bacterial isolates. However, the relationship between antimicrobial prescribing and antimicrobial resistance was significantly negative among UTI patients in BCH, Saudi Arabia.

Keywords

Author Keywords: Antimicrobials; bacterial isolates; resistance; Saudi Arabia; urinary tract infections

KeyWords Plus: URINARY-TRACT-INFECTIONS; BLOOD-STREAM INFECTIONS; GRAM-NEGATIVE BACTERIA; ESCHERICHIA-COLI; ANTIBIOTIC-RESISTANCE; PREGNANT-WOMEN; RISK-FACTORS; SUSCEPTIBILITY; SEASONALITY; PREVALENCE

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