

MICROBIOLOGICAL PROFILE AND ANTIMICROBIAL RESISTANT PATTERNS IN URINARY TRACT INFECTION AMONG DIABETES MELLITUS PATIENTS OF BANGLADESH - A CROSS-SECTIONAL OBSERVATIONAL STUDY

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Background : Urinary Tract Infection (UTI) especially recurrent one is a very common among Diabetes Mellitus (DM) patients, presenting unique challenges due to compromised immune systems and altered physiological environments. This cross-sectional observational study aimed to elucidate the microbiological profile and antimicrobial resistance patterns of UTI in DM patients in Bangladesh. **Methods:** A total of 100 diabetic patients with positive urine cultures, who presented UTI symptoms and met the inclusion and exclusion criteria, were recruited. **Results:** Microbiological analysis revealed *Escherichia coli* (*E. coli*) as the predominant organism, constituting 80 % of isolates. Notably, the majority of *E. coli* isolates exhibited resistance to multiple antibiotics, posing significant therapeutic challenges. Alarming, a significant proportion of isolates from recurrent UTI demonstrated resistance to commonly prescribed antibiotics, rendering them ineffective for treatment. However, a subset of antibiotics, including nitrofurantoin, Meropenem, imipenem, and colistin, exhibited sensitivity against a proportion of isolates. **Conclusion:** These findings underscore the urgent need for tailored antimicrobial stewardship programs and surveillance strategies to combat the rising tide of antimicrobial resistance especially in recurrent UTI among DM patients in Bangladesh. Furthermore, judicious antibiotic prescribing practices and the exploration of alternative treatment modalities are imperative to mitigate the escalating threat of multidrug-resistant UTI in this vulnerable population.

Key words: Microbiological Profile, Antimicrobial Resistant, UTI, DM

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