

## **Prevalence of pyuria, culture positivity and antibiotic sensitivity test pattern of isolated bacteria among chronic kidney disease patients attending Nephrology clinic, Teaching Hospital Jaffna**

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Chronic kidney disease (CKD) is a widespread health issue affecting millions worldwide. It weakens the immune system, increasing the risk of urinary tract infections (UTIs), which can worsen CKD. Pyuria, a common symptom, can result from infection or inflammation. Distinguishing between these is important for treatment. Monitoring antimicrobial resistance is crucial for effective management and preventing kidney damage. Objective of this study is to determine prevalence of pyuria, culture positivity and antibiotic sensitivity test pattern (ABST) patterns of isolated bacteria among CKD patients attending to Nephrology clinic, Teaching Hospital Jaffna (THJ). Institution-based cross-sectional study on 203 CKD patients (stage I to V), was conducted at nephrology clinic, THJ from May to July, 2024 excluding hemodialysis patients. Random sampling technique was used. Specimen processing and bacterial identification were done according to standard protocols from the “Laboratory Manual in Microbiology” by the Sri Lankan College of Microbiologists. Mid-stream Urine samples were inoculated on CLED media using 1µL calibrated wire loop and urine microscopy was performed in each sample. ABST was performed on all isolated bacteria using CLSI disk diffusion method. Obtained data was analyzed using SPSS version 27 with findings presented graphically and in tables. Among 203 urine samples, 27.6% (56) showed significant pyuria, with 75% (42) classified as sterile and 25% (14) indicating UTI pyuria. Significant bacterial growth was found in 12.8% (26) with predominantly *Coliforms* (76.9%), followed by *Acinetobacter* (7.6), *Enterococcus* (7.6%), *Pseudomonas* (3.8%) and *Staphylococcus* (3.8%). *Coliforms* were highly susceptible to gentamicin (80%), but resistant to ampicillin (78.9%). All isolates were resistant to ampicillin and 50% exhibited multidrug resistance (MDR). This study showed a high prevalence of sterilepyuria. Bacterial growth was found in fewer samples, mainly *Coliforms*, which exhibited significant MDR. Gentamicin and nitrofurantoin were effective treatments for most pathogens. There is a significant association between culture positivity and pyuria.

**Keywords:** Prevalence, Pyuria, CKD, ABST, Culture Positivity