



ABSTRACT

Antibiotic Resistance in Childhood Urinary Tract Infection in Palestine

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Background: Urinary tract infections (UTIs) are among the most common bacterial infections in children, with increasing antibiotic resistance posing a significant healthcare challenge. Current data on resistance patterns in Palestinian children is limited, hampering effective empirical treatment strategies.

Objective: To determine the prevalence of antibiotic-resistant bacterial urinary tract infections in children and identify the most common bacterial isolates associated with childhood UTIs in Palestine.

Methods: This observational study analyzed 269 positive urine cultures from patients under 16 years at Caritas Baby Hospital during 2023 and 2024. Bacterial identification and antibiotic susceptibility testing were performed using standard microbiological methods, including the disk diffusion technique.

Results: *Escherichia coli* was the predominant pathogen (70.3%, n=189), followed by *Klebsiella pneumoniae* (12.6%, n=34) and *Enterococcus* species (6.7%, n=18). *E. coli* exhibited 100% resistance to gentamicin, ertapenem, and co-trimoxazole, while showing lower resistance to nitrofurantoin (23.1%) and tetracycline (26.7%). *Klebsiella pneumoniae* demonstrated the highest resistance to nitrofurantoin (38.5%) and ceftazidime (21.1%), with minimal resistance to amoxiclav (6.7%). Notably, minimal resistance was observed for tigecycline across all isolates.

Conclusions: The study reveals concerning levels of antibiotic resistance among uropathogens in Palestinian children, particularly for commonly prescribed antibiotics. The findings indicate that



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nitrofurantoin and amikacin remain effective treatment options, while traditional empiric choices such as gentamicin, ertapenem, and co-trimoxazole show significant resistance patterns. These results emphasize the need for regular surveillance of local resistance patterns and judicious antibiotic use in pediatric UTI management.

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