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Sensitivity pattern of antimicrobials against uropathogens and extend- ed spectrum beta lactamase-producing isolates in clinical specimens from the najran region, KSA

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Abstract

This study analyzed drug prescribing patterns for urinary tract infections (UTIs) among patients aged 12–80 years, male and female and assessed drug use in such cases. Comprised a quantitative, drug prescribing observational study and employed more than 90 confirmed cases of UTIs. The specimens investigated were collected from different hospitals in the Najran Region of the Kingdom of Saudi Arabia (KSA) and the Stokes technique was used to observe the sensitivity pattern of the isolates. The analyses showed 90.0% of total iso- lated organisms were Gram-negative bacteria. Among the Gram-negative and Gram-positive bacteria, Esche- richia coli and Staphylococcus epidermis were the most prevalent organisms, respectively. The percentage of Gram-negative isolates was found to be the greatest for E. coli (54.83%), followed by Klebsiella (9.67%) and Sphingomonnus paucimobilis (5.37%). Among the Gram-positive isolates, the greatest occurrence was found for Staphylococcus epidermis (5.37%). The antibiotic effectiveness against different isolates was found to be greatest for Amikacin (95.2%), followed by Ceftriaxone (89.3%), Ceftazidime (88.1%) and Ciprofloxacin (84.5%). Furthermore, screening of multi-drug resistant isolates for extended-spectrum beta (β)-lactamase (ESBL) pro- duction showed that 58.33% of Gram-negative isolates produce these enzymes. Among the various bacteria, the production of EDSL enzymes was greatest for E. coli (72.54%), followed by Klebsiella and Pseudomonas aeruginosa (both 66.66%) and then Sphingomonnus paucimobilis (40.0%). The findings suggest that antibiotic resistance in UTIs shows alarming outcomes and clinical guidelines are urgently required to minimize resis- tance to antibiotics for the treatment of UTIs in the Najran Region, KSA.

Biography

Saad A Alkahtani is currently Dean for the College of Pharmacy at Najran University, Saudi Arabia, a position he has held since February 2014. He also maintains his position as an Associate Professor of Clinical Pharmacy with the College of Pharmacy where he provides clinical and professional instruction. He holds a PhD in pediatric clinical pharmacology from the University of Nottingham, UK, 2013. He earned his Master Degree from the University of Glasgow, UK, in 2009 and his undergraduate studies at King Saud University, Saudi Arabia, 1999. He joined the Department of Clinical Pharmacy at Najran University as an Assistant Professor in 2013 and was promoted to an Associate Professor in 2018. He is an Academic Pharmacist whose clinical and his research interests lie in evaluating cultural perceptions of, and access to healthcare and pharmacy services. His other research interests lie in pharmacoepidemiology and counterfeit medications. He has collaborated actively with researchers in several other disciplines of pharmaceutical sciences, particularly drug designing. He serves and has served in various committees at the University. He has been a Member of various national and international committees and working groups in the area of clinical pharmacy and pharmacy education. He has published many of peer reviewed journal articles and conference papers and he is a reviewer for several international peer-re- viewed journals.

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