

Abstract

The Growing Antimicrobial Resistance of Urinary Tract Infections, Sana'a- Yemen, 2015

Yasser Ghaleb; A Al Serouri; M Alamad; S Nasher; A Alsoumainy

Corresponding Author:

Yasser Ghaleb

Abstract

Background: Urinary tract infections (UTIs) remain a growing public health concern as it may lead to treatment failure and increasing morbidity and mortality. To optimize empirical antibiotic prescription, it is important for clinicians to have a working knowledge regarding UTIs etiological pathogens and its susceptibility patterns.

Objective: Determine the prevalence of UTIs, describe their responsible pathogens, and their antimicrobial resistance.

Methods: 2015 data on patients attended the Microbiology Department in National Centre for Public Health laboratories (NCPHL) for urine cultures was obtained. UTIs defined as $\geq 100,000$ CFU/mL of an uropathogen in midstream urine culture. The causative pathogen was identified, and antibiotic resistance carried out by disc-diffusion method.

Results: Out of 2901 patients examined, 58% were females and half among 20-40 years age group. The prevalence of UTIs was 34% and more among females: Odds Ratio (OR): 1.8 (1.5-2.0) and elderly ≥ 60 years (OR: 1.4 (1.1-1.8)). Gram-negative bacteria constitute 73% of UTI and found to be highly resistance to Nalidixic acid (70%), Co-trimoxazole (64%), and Piperacillin (62%). Gram-positive bacteria that constitutes 27% found to be highly resistant to Co-trimoxazole (81%), Norfloxacin (69%) and Amoxicillin (67%). *E. coli* was the most common pathogen (42%), followed by coagulase negative Staphylococci (10%) and *Klebsiella* (8%). While *E. coli* found to be resistant to Co-trimoxazole (66%) and Nalidixic acid (71%), *Klebsiella* was resistant to Co-trimoxazole (88%) and Nalidixic acid (64%), and Coagulase Negative Staphylococci to Co-trimoxazole (88%) and Amoxicillin (75%).

Conclusions: Findings highlight the doubling of UTIs prevalence and growing antibiotics resistance e.g. for Nalidixic acid from 54% to 70% since 2002. Results should guide antibiotic prescribing and developing strategies for controlling resistance. It also underlines the need to establish Antimicrobial Stewardship Program to reduce selection pressure and minimize resistance.

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