

Antibiotic resistance in urinary tract infections between 2014 and 2016 in Harare, Zimbabwe

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Background and Rationale: Antibiotic resistance of uro-pathogens has become a growing problem but there is limited documented evidence to support this in Zimbabwe. The aim of this study was to gather evidence on antibiotic resistance patterns of bacteria causing urinary tract infections.

Methods: A retrospective record review of antibiotic susceptibility data for urine specimens received between 1 April 2014 and 30 April 2016 at Beatrice road infectious disease hospital in Harare, Zimbabwe was conducted. The following study data were collected: organism identified, antimicrobial susceptibility results as well as accompanying patient demographic data.

Results: Over the study period 6787 urine samples were submitted to the laboratory. 1687 (25%) samples yielded a positive culture the majority coming from females (54.1%). Gram negative organisms (86.5%) were more

common than Gram positive organisms (10.8%). The Gram-negative organisms displayed a high level of resistance to ampicillin (range 71.4%-82.8%), cotrimoxazole (range 74.6%-81.8%), tetracycline (range 61.0%-75.8%) and ciprofloxacin (range 25%-48%) whereas resistance to nitrofurantoin, gentamicin and meropenem were lower.

Conclusion: The culture positive rate of the urine specimens was low with more females than males having positive cultures. Gram negative organisms were the most predominant isolates compared to the Gram positives. Resistance to ampicillin, cotrimoxazole, ciprofloxacin and tetracycline was very high for all the gram negative organisms and as such should not be used for empiric treatment.

A countrywide surveillance system on antibiotic susceptibility patterns should be performed periodically monitor the continued effectiveness of drugs in use