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A documentary review study of bacterial pathogen resistance to antimicrobial

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Statement of the Problem: Antimicrobial resistance is an umbrella term referring to resistance of different types of microorganisms to various antimicrobial agents which occurs naturally but is facilitated by the inappropriate use of medicines. It is becoming a serious threat to global health as it is increasing worldwide requiring an integrated global action.

Methods: A documentary review study of laboratory results of patients at National Health Laboratory was carried out to determine the pattern of antimicrobial resistance for bacterial isolates. All samples brought to the microbiology laboratory were included in the study. Statistical analysis of data was done using Statistical Package for the Social Sciences (SPSS) version 20.

Results: Out of 398 total samples, 149 samples had shown bacterial growth. Of these 149 samples, 48 were tested for *E. coli* and found to be resistant to ampicillin (87.5%) and sensitive to chloramphenicol (72.9%); 20 were tested for *Klebsiella* sp. found to be resistant to ampicillin (75%) and sensitive to chloramphenicol in (80%), 18 tested for *Citrobacter* sp. found to be resistant to ampicillin in 100% and sensitive for amikacin in 61%, 11 tested for *Pseudomonas* sp. found to be resistant to majority of the drugs ampicillin, nalidixic acid and tetracycline, 81.8% each.

Conclusion: According to results obtained the practice of rational drug use has to be strictly applied and continuous surveillance for antimicrobial drug sensitivity test to be done in order to assure appropriate drug administration for treating disease and reducing the emergence of new resistant strains of bacteria.

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