



ORIGINAL RESEARCH

Sensitivity and Resistance Pattern of Bacteria in Benin City, Nigeria

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ABSTRACT

Background: Sensitivity and resistance pattern of bacteria provides vital information for the development and implementation of an effective antibiotic policy. Proper identification of causative organisms enables informed decision making in rational use of antibiotics.

Objectives: To determine the most common site of bacterial infection, the prevalence of common bacteria based on their site of infection and to document the sensitivity of these microorganisms to two selected antibiotics.

Methods: A prospective cross-sectional study conducted in seven laboratories and a private hospital in Benin City, Nigeria. A validated structured questionnaire was administered to 420 respondents. Data obtained were analyzed using Microsoft Excel and GraphPad InStat. *P*-values < 0.05 at 95% confidence interval were interpreted as significant. Ethical considerations were observed.

Results: Response rate was 83.57%, 60% of the respondents were females while a majority were within the ages of 26-30 years (31.91%). Majority of the patients surveyed contracted *Staphylococcus aureus* (n=180, 51%) while *Escherichia coli* was the next most prevalent bacteria. *Staphylococcus aureus* was found to be resistant to cotrimoxazole and amoxicillin but sensitive to erythromycin and ciprofloxacin. Only 18 patients had more than one micro-organism isolated from their site of infection. Urinary tract was the most common site of infection. Isolates showed sensitivity and resistance to multiple antibiotics.

Conclusion: The urinary tract was the most common site of bacterial infection while the most prevalent microorganism was *Staphylococcus aureus* which is sensitive to erythromycin and ciprofloxacin but not to cotrimoxazole and amoxicillin.

Keywords: Antibiotics, Sensitivity, Resistance, Prescribing pattern, Micro-organisms