**Comparative analysis of Amikacin, Ceftriaxone, Ciprofloxacin and Imipenem against Escherichia coli and Salmonella typhi: A prospective experimental study**

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**ABSTRACT**

**Objective:** To analyze and compare activity of four different antibiotics namely Amikacin, Ceftriaxone, Ciprofloxacin and Imipenem against Escherichia coli and Salmonella typhi.

**Study Design:** A prospective experimental study.

**Place and Duration:** At Pharmaceutical Microbiology Lab, Department of Pharmaceutics, Hamdard University, Karachi, Pakistan from December 10, 2017 to May 18, 2018.

**Methodology:** Kirby-Bauer’s Disk Diffusion method was employed for antibiotic testing and One-way ANOVA determined significant differences of zone of inhibitions (at p<0.05).

**Results:** High resistance was shown towards Ceftriaxone both by E.coli and S.typhi strains as 67% and 50.94% respectively. 91.75% susceptibility to Imipenem was noted for E.coli and that of 75.47% was shown by S.typhi.

**Conclusion:** Higher susceptibility patterns were noted towards Imipenem and maximum resistivity was highlighted against Ceftriaxone by both E.coli and S.typhi amongst all the four tested antibiotics. Ciprofloxacin and Amikacin exhibited moderate activity against both E.coli and S.typhi.

## Keywords: Antibiotics, Amikacin, Ceftriaxone, Ciprofloxacin, Imipenem, E.coli, S.typhi, Sensitivity, Resistance, Disk diffusion, Zone of Inhibition.

**How to Cite This:**

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