

**Identification and determination of antimicrobial susceptibility profiles of *Salmonella* serotypes isolated from patients at Kisii level-5 hospital in Kisii County, Kenya**

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## ABSTRACT

There are close to 2,700 serotypes of *Salmonella* that have been described so far. Some of these serotypes are epidemiologically and clinically important since they cause various infections in human beings. In recent years, *Salmonella* related infections have been on the increase due to contamination of food and water sources. These infections are managed and treated using first line antibiotics such as ampicillin, chloramphenicol, streptomycin, sulfoxazole, tetracycline and nalixidic acid. However, improper use of these drugs has led to emergence of antibiotic resistant strains. Therefore, the main aim of this study will be to isolate and identify the main serotypes of *Salmonella* that cause infections among patients visiting Kisii level-5 hospital. The study will also determine whether the isolated serotypes have developed antimicrobial resistance. In this study, 169 blood and stool samples will be obtained from patients seeking treatment in the hospital and cultured in selective *Salmonella* media to isolate *Salmonella* from other enteropathogens. The isolates will be identified into serotypes using colonial morphology, biochemical tests and serological serotyping. The isolation frequency of the various serotypes and their antimicrobial susceptibility patterns will be determined by use of Kirby Bauer disk diffusion method according to the National Committee of Clinical and Laboratory Standards. The data obtained will be analyzed using chi square, multiple logistic regressions and ANOVA test. The findings will be used in future management of *Salmonella* infections.