

Background:

Diarrheal illnesses continue to pose health challenges, with significant morbidity and mortality among people from such areas where hygiene is substandard. Among enteric pathogens, Salmonella and Shigella species are of particular concern as causes of enteric fevers, food poisoning and gastroenteritis. Antibiotic resistance is an emerging global burden that accelerates rapid colonization of resistant microorganisms which favors rapid global spreading of such strains.

Objective:

Owing to weaker infection control measures, there has been an increased spread of multi drug resistant (MDR) strains, as seen following outbreaks. Antibiotic resistance to Salmonella and Shigella are emerging global challenges owing to increased wrong usage of antibiotics both in humans and animals of which humans consume as meat, milk and associated products. Despite several reports on outbreaks of Shigella and Salmonella, there is paucity of data in several Kampala suburbs; thus, the study sought to determine the prevalence of Salmonella and Shigella species, and their antibiotic susceptibility patterns to commonly used antibiotics among patients attending Kiswa HC IV.

Materials and methods:

The study enrolled 120 adult participants after obtaining an informed consent. These were cases with clinical suspicion of Salmonellosis and Shigellosis. Participants' stool samples were collected, preserved and immediately analyzed in the Laboratory using culture technique onto Xylose Lysine Deoxycholate (XLD) agar and incubated overnight at 37°C. Positive samples were investigated using biochemical tests, and drug susceptibility testing (DST) using Ceftriaxone (30µg), chloramphenicol (30µg), ciprofloxacin (5µg), gentamicin (10µg), nalidixic acid (30µg), Cotrimoxazole (25 µg) Ampicillin (10 µg) and amoxicillin (20µg).

Results:

The prevalence of Salmonellosis was found to be 17.2% (95% CI; 14.9-19.1). On the other hand, the prevalence of Shigellosis was 6.8% (95% CI; 2.6-8.9). The overall prevalence of Shigella and Salmonella species was reported at 24.0% (95% CI; 22.6-26.1). The highest prevalence was among men at 16 (55%) while among women, it was at 13(45%).

Most of the seropositive were from males, implying that male gender is dependently associated with risk of typhoidal fever (P=0.001). The drug susceptibility pattern to isolated species was Ampicillin: 69% sensitive, Ceftriaxone: 62% sensitive while isolates were resistant to Pefloxacin.

Conclusion and recommendation:

This study reports high occurrence of Salmonella and Shigella species in a capital city suburb following an outbreak. The study also reveals a high risk of antibiotic resistance to the commonly used

agents which may be attributed to low surveillance and weak, or inexistent regulations of the use of antibiotics in the health care systems.

We recommend public health awareness campaigns about hand washing, personal hygiene, provision of safe drinking water and regular screening of food handlers to eliminate any risk of transmission.

Additionally, antimicrobial use ought to be restricted to the prescription of a health professional, and in to such, it is vital to complete the full prescribed dosage.