

Abstract

OBJECTIVE:

To characterise and investigate antimicrobial resistance of *Escherichia coli* and *Salmonella* strains isolated from indigenous *Gallus gallus* in a leading slaughterhouse/market outlet in Nairobi-Kenya.

DESIGN:

A repeated cross sectional study and based on random sampling was used.

SETTING:

The study was carried out in a leading market outlet in Nairobi, Kenya.

RESULTS:

A hundred and four indigenous chicken rectal swabs were analysed, of which 67.3% were contaminated with *Escherichia coli* and 12.5% with *Salmonella typhimurium*. Seventy *Escherichia coli* isolates showed resistance phenotypes to one, two or more antibiotics. The most common antimicrobial resistance pattern was the single resistance to Tet (21.43%), followed by Amp Cot Tet (14%), Aug Amp Cot Tet (4.29%), Aug Amp Cot Tet Kan Chl (2.86%), Amp Cot Tet Chl, Cot Tet (2.86%) and Crx Amp Cot Tet Chl, Crx Amp Cot Chi, Amp Cot, Aug Amp, (1.43%) respectively. The highest rate of resistance was against Tet (55.7%), followed by Cot (40%). Third in line of resistance was Amp 32.86%, followed by Aug (11.43%), low or moderate resistance was against Chl (8.57%), Kan (4.29%), and Crx (2.86%) ($P < 0.0002$). *Salmonella typhimurium* recovered displayed single resistance pattern to Tet (16.67%), Gen Cot Tet (8.33%), Amp Cot Tet (8.33%), Aug Amp Cot Tet (8.33%) and Amp Cot Tet Chl (16.67%). The highest resistance was against Tet (58.3%), Cot (41.7%), Amp (33.3%), Chl (16.7%), Aug and Gen (8.3%) respectively ($P < 0.0001$). 3.0kb and 5.6kb plasmids isolated were not transferable by conjugation.

CONCLUSION:

Routine surveillance at slaughter/market outlets of *Escherichia coli* and *Salmonella enterica* should be done to identify infected flocks as a regulatory procedure for food safety and security programme.