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Farmers’ and academia’s views”

## Antibacterial resistant *Escherichia coli* isolated from slaughter sites in Yenagoa metropolis Bayelsa state

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### Abstract

Substantial use of antimicrobials across the world occurs in livestock production of meat, milk and eggs for human consumption thereby making antibiotic resistance (AMR) of global concern to both human and animal health. The spread of AMR generated at farm level can be due to human exposure to AMR pathogens either by direct contact, contamination of livestock products or wide spread release into the environmental. A large number of ruminant animals slaughtered daily at slaughter sites for human consumption come from different sources with limited record of their health status or any treatment received prior to slaughtering. This may contribute as a driver to AMR spread owing to the fact that slaughter waste disposal may not be appropriate at such sites. Two major slaughter sites were sampled in Yenagoa metropolis of Bayelsa state to determine antibiotic resistant bacteria. Site 1 was labelled as SW while site 2 was labelled as TA. Four waste samples were collected as solid mass from each site and stored in pre-labelled sterile sample bottles. This was taken to the laboratory for bacteria isolation after enrichment for antibiogram analysis using the following antibiotics penicillin (10 $\mu$ g Disk load), augmentin (30 $\mu$ g), cloxacillin (5 $\mu$ g), erythromycin (15 $\mu$ g), gentamicin (10 $\mu$ g), ofloxacin (5 $\mu$ g), streptomycin (10 $\mu$ g), tetracycline (30 $\mu$ g), and ampicillin (10 $\mu$ g). *Pseudomonas aeruginosa* and *Escherichia coli* were isolated using bacteria specific agar and characterised individually prior to antibiogram analysis. Of the 4 samples collected from site SW, *E. coli* was isolated from 2 samples, while only 1 sample from site TA showed the presence of *E. coli*. Antibiogram results for *E. coli* were interesting as the bacteria isolated from site SW and TA was resistant to all the antibiotics tested except ofloxacin. Antibiogram results for the other antibiotics was 0.00 mm at their respective concentration ( $\mu$ g disk load). Antibiogram results obtained with ofloxacin was 28mm, 31mm (SW) and 32mm (TA); respectively.

It can be concluded that *E. coli* isolated from both slaughter sites exhibit antibiotic resistance against 8 of the antibiotics tested except 1 (ofloxacin).

**Keywords:** Antibiotics, antimicrobial resistance, *Escherichia coli*, livestock products, slaughter sites