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Antibiotic resistance of non-typhoidal *Salmonella* strains isolated from broiler products in the North West Province of South Africa

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This study was conducted to evaluate the resistance of non-typhoidal *Salmonella* strains (NTS), isolated from broiler products in the North West Province of South Africa, to antimicrobials. A total of 60 NTS isolates recovered from raw broiler products and confirmed by PCR were evaluated for antimicrobial resistance by disk diffusion method, using a panel of ten antibiotics. The NTS isolates that were identified and used in this study include *S. typhimurium, S. enteritidis* and *S. newport*. The antimicrobials used were ampicillin (10 µg), chloramphenicol (30 µg), ciprofloxacin (5 µg), amikacin (30 µg), trimethoprim-sulfamethoxasole (25 µg), tetracycline (30 µg) cefotaxime (30 µg), meropenem (10 µg), gentamicin (10 µg) and erythromycin (15 µg). Isolates resistant to ampicillin (n=48), tetracycline (n=60) and chloramphenicol (n=12) were further screened by PCR for antibiotic resistance genes, targeting the *blaTEM*, *tet* and *cat* genes. All the strains tested were resistant to two or more antibiotics. All isolates were susceptible to cefotaxime, meropenem, gentamycin and amikacin whereas all were resistant to tetracycline. Resistance to trimethoprim-sulfamethoxasole, ciprofloxacin and chloramphenicol was low, being 8.3%, 13.3% and 20% respectively. Multi-drug resistance was discovered in nine *S. typhimurium* strains, representing 15% of the tested isolates. In addition, the *blaTEM* gene was identified in 15 (31.3%) of the isolates screened, whereas the *tet* and *cat* genes were expressed in 12 (20%) and 6 (50%) resistant isolates respectively. The observations of this study indicate that NTS strains isolated from broiler products are resistant to multiple antibiotics, including quinolones.

Biography

Roseline Olobatoke has completed her PhD from North-West University, South Africa and Postdoctoral studies from the same university. She is a Senior Lecturer at the College of Agriculture, Ahmadu Bello University, Nigeria. She has published more than 12 papers in reputed journals and has served as a Reviewer for journals of repute.

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