

The first attempt of an active integrated laboratory-based Salmonella surveillance programme in the north-eastern region of Nigeria - DTU Orbit (09/11/2017)

The first attempt of an active integrated laboratory-based Salmonella surveillance programme in the north-eastern region of Nigeria

To identify the sources of Salmonella contamination, distribution, prevalence and antimicrobial susceptibility patterns, which have significant impact on public and animal health, and international trade. A total of 1888 samples were collected by stratified random sampling from 2009 to 2011 from cattle, camels, poultry, fish, vegetables and humans. All identified Salmonella isolates were serotyped and tested for antimicrobial susceptibility by MIC determinations. A total of 149 Salmonella isolates comprising 17 different serovars were obtained (7.9% prevalence). Salmonella Hadar (37%), S. Eko (17%), S. Enteritidis (10%), S. Kentucky (7%) and S. Uganda (7%) were isolated from different sources. The occurrence of antimicrobial resistance was generally low, but S. Enteritidis and S. Eko showed variable antimicrobial resistance patterns, while all S. Kentucky isolates were resistant to seven of 17 tested antimicrobials, including ciprofloxacin and nalidixic acid. Three S. Hadar isolates revealed reduced susceptibility to ciprofloxacin and susceptibility to nalidixic acid and harboured the plasmid-mediated quinolone resistance gene qnrS1. Salmonella serovars Hadar, Enteritidis and the previously very rarely reported Eko were the major serovars associated with human infections, animal and environmental contamination in the north-eastern region of Nigeria. These serovars constitute a health risk to poultry, environment and human population in the region.

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Authors: Raufu, I. (Ekstern), Bortolaia, V. (Intern), Svendsen, C. A. (Intern), Ameh, J. (Ekstern), Ambali, A. (Ekstern), Aarestrup, F. M. (Intern), Hendriksen, R. S. (Intern)

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