

OP 03

Antimicrobial Potential in Poultry Feed Used in Poultry in Kegalle District

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Background: Rampant use of antibiotics in the livestock sector makes a significant contribution for the development and spread of antibiotic resistance.

Objectives: To determine the presence of antimicrobial activity in poultry feeds used in Kegalle district and to determine the awareness of poultry farm owners on potential effects from feeding practices on the increase of antimicrobial resistance

Methods: Two samples of poultry feed from each shop and three samples of both feed and water that are ready to serve in each farm were collected. Agar well diffusion method was used to determine the antibiotic effects against *Staphylococcus aureus* (ATCC 25923), *Escherichia coli* (ATCC 25922) and *Pseudomonas aeruginosa* (ATCC 27853). Gentamicin and sterile distilled water were used as positive and negative controls respectively. An interviewer administered questionnaire was used to collect data from farm owners.

Results: No inhibition zones were detected against three standard organisms for all samples of poultry feed collected from all 18 farms and for two types of poultry feed taken from all four shops. Mean diameters of zones of inhibition detected in water samples against above mentioned three organisms are 31.0, 21.5 and 20.0 mm respectively. The 78% of farm owners declared that they mix different types of antibiotics containing additives into the water served to animals. The 44% of farm owners believe that use of antibiotics is harmful for human health while a similar percentage claims that it is a favorable practice. None of the farm owners were aware that use of antibiotics in poultry contributes to the increasing antibiotic resistance.

Conclusions: Antimicrobial activity was not detected in poultry feeds used in Kegalle district. However, water served to animals in poultry showed antimicrobial activity. The awareness of farm owners on antibiotic use in poultry and its effect on the increase of antibiotic resistance is unsatisfactory.

Keywords: *Antibiotics, Antibiotic resistance, Additives, Poultry feeds*