

Determination of Multidrug-Resistant Livestock Associated Bacteria from Goats, Cows, and Buffaloes in Pokhara Kaski

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Abstract : Antibiotics were being misused in both humans and animals, which led to the development of multidrug-resistant microorganisms. Antibiotic abuse is likely rampant among goats, cows, and buffaloes in order to boost growth and reduce production losses. The aim of this study is to know the multidrug resistance (MDR) bacteria in goats, cows, and buffaloes. Out of 68 samples that were examined, *S. aureus*, *Bacillus* spp., *E. coli*, *Shigella* spp., *Klebsiella* spp., *S. epidermidis*, and *Salmonella* spp. were isolated. *S. aureus* was the highest isolated bacteria (91.17%), *Bacillus* spp. (61.76%), *E. coli* (48.52%), *Shigella* spp. (22.05%), *Klebsiella* spp. (17.64%), *S. epidermidis* (13.23%), and the *Salmonella* spp. (7.35%). *Salmonella* spp. and *E. coli* showed multidrug resistance to at least four antibiotics, including Amoxicillin, Tetracycline, Piperacillin, and Ciprofloxacin, in *Salmonella* and to at least three antibiotics, including Amoxicillin, Tetracycline, and Nalidic acid. The highest resistance bacteria *Salmonella* spp. showed (57.14%) *E. coli* and *Bacillus* spp. showed (42.85%) *S. aureus*, *S. epidermidis*, and *Shigella* spp. showed (28.57%), and *Klebsiella* spp. showed (14.28%). This study showed that antibiotic-resistant bacteria with high levels of Amoxicillin, Penicillin, and Tetracycline resistance are present in healthy farm animals such as goats, cows, and buffaloes. Options for antibiotic therapy in both humans and animals will likely be limited as a result. The use, distribution, storage, and sale of antibiotics in veterinary practices must consequently be under strict control.

Keywords : multidrug resistance, multidrug resistance bacteria, susceptibility testing, bacterial infections

Conference Title : ICASVM 2023 : International Conference on Animal Science and Veterinary Medicine

Conference Location : Toronto, Canada

Conference Dates : September 18-19, 2023