

## **Abstract:**

This study was designed to determine antimicrobial resistance profiles of bacteria isolated from the nasal cavity of healthy camels. A total of 255 nasal samples (swabs) were collected in Isiolo, Samburu, and Nakuru counties, Kenya, from which 404 bacterial isolates belonging to various genera and species were recovered. The bacterial isolates included *Bacillus* (39.60%), coagulase-negative *Staphylococcus* (29.95%), *Streptococcus* species other than *Streptococcus agalactiae* (25.74%), coagulase-positive *Staphylococcus* (3.96%), and *Streptococcus agalactiae* (0.74%). Isolates were most susceptible to Gentamicin (95.8%), followed by Tetracycline (90.5%), Kanamycin and Chloramphenicol (each at 85.3%), Sulphamethoxazole (84.2%), Co-trimoxazole (82.1%), Ampicillin (78.9%), and finally Streptomycin (76.8%). This translated to low resistance levels. Multidrug resistance was also reported in 30.5% of the isolates tested. Even though the antibiotic resistance demonstrated in this study is low, the observation is significant, since the few resistant normal flora could be harboring resistance genes which can be transferred to pathogenic bacteria within the animal, to other animals' bacteria and, most seriously, to human pathogens.