

**PRELIMINARY STUDY OF ANTIMICROBIAL RESISTANCE PATTERNS IN COLIFORMS FROM RAW MILK IN KANDY AREA**

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Milk is a complex biological fluid which consists of a cocktail of macro and micro nutrients and it provides a favorable growth media for many microorganisms. When considering milk collection and storage practices in small and medium scale dairy farms in Sri Lanka, there is a high probability of milk being contaminated by coliforms. These microorganisms can cause mastitis in dairy cows and their presence in bulk milk could result in spoilage-related human diseases. Coliforms, which can be used as indicator organisms, also have the ability of acquiring and transmitting plasmid-mediated multi-drug resistance. Therefore, the objective of the current study was to determine the antibiotic resistance patterns in coliforms isolated from milk collected from small and medium scale dairy farms in the Peradeniya area. Fifteen milk samples collected from individual animals in 11 dairy farms were cultured on MacConkey agar at 37°C for 24 hours. The different types of coliforms were identified based on colony morphology and conventional biochemical tests while antimicrobial sensitivity tests were performed on all isolates. A total of 46 isolates were recovered of which the majority was *Klebsiella* spp. (54.34%), and the rest were *Escherichia coli* (34.70%), *Salmonella* spp. (6.50%) and *Proteus* spp. (4.46%). No antibiotic resistance was observed for ciprofloxacin which is not a common drug in livestock. All four types of coliforms showed resistance to sulpha-trimethoprim, a common drug in livestock. *Klebsiella* spp. showed marked resistance for ampicillin (30.43%), while comparatively high resistance was observed for sulpha-trimethoprim (13.04%) and gentamicin (6.52%). These results reveal the development of antimicrobial resistance among coliforms against commonly used antimicrobials. Hence, prudent use of antimicrobials in livestock is essential to prevent further development of antimicrobial resistance which could impact the health of both humans and livestock.