

A Preliminary Investigation on Microbial Quality of Poultry and Meat Sold near Mahargama Public Fair Premises

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In recent years, foodborne infections have become a serious concern, particularly with poultry and meat being common sources of illnesses caused by pathogens such as *Salmonella* spp. and *Escherichia coli*. Maharagama is one of the rapidly developing towns in Sri Lanka where there is high demand for the sale of poultry and meat. Poor hygienic practices of vendors and unsanitary conditions around those premises can increase food contamination. Between October 2023 to January 2024, a total of 24 samples were collected: 9 chicken, 7 beef and 8 egg samples from retail stalls and supermarkets near public fair premises. Total bacterial count (TBC) and total coliform count (TCC) analyses were performed by pour plate method to determine the microbial quality. Furthermore, *Salmonella* spp. was analysed as the reference pathogen using culture-based methods and biochemical tests. Results showed that 55.56% of chicken and 26.57% of beef samples tested positive for *Salmonella* spp., while no egg samples were contaminated. Comparing the results with guidelines from the Ministry of Health of Sri Lanka and the Sri Lanka Standard Institute (SLSI), the mean TBC (6.1×10^7 /g) and mean TCC (5.3×10^6 /g) for chicken, and mean TBC (4.5×10^8 /g) and mean TCC (1.7×10^6 /g) for beef, were found to be unsatisfactory. However, these results are not statistically significant. The study showed that vendors who practiced proper food handling and maintained proper storage facilities for chicken and beef had lower TBC and TCC values compared to those who did not follow proper food handling practices and lacked proper storage facilities.

Keywords: *salmonella* spp, total bacterial count, total coliform count, pour plate method