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SEROTYPE- BASED CHARACTERISATION OF *Listeria monocytogenes* IN RAW MILK COLLECTED FROM COLOMBO DISTRICT, SRI LANKA

O.T. Weerasinghe[1,2], T.S. Thalpavila[1,2], D.A.D.V. De Silva[1], M.L.A.M.S. Munasinghe[1] and W.A.S. Wijendra[2]*

[1]*Department of Botany, University of Sri Jayewardenepura, Nugegoda, Sri Lanka.*
[2] *Medical Research Institute, Colombo, Sri Lanka.*
*wijendra@mri.gov.lk

Listeria monocytogenes is a foodborne pathogen responsible for listeriosis, a severe foodborne illness, that poses a significant public health risk due to its high mortality rate, particularly in immune compromised individuals. Raw milk is a potential substrate for this pathogen, as it can thrive under refrigeration and withstand harsh environmental conditions. This study aimed to evaluate the prevalence and characterisation of circulating serotypes of *L. monocytogenes* in raw milk samples collected from the Colombo district, Sri Lanka. A total of 50 raw milk samples were collected, and 63 bacterial isolates were obtained. Isolates were confirmed as *L. monocytogenes* using nested PCR, and serotyping was performed on positive isolates using multiplex PCR. Of 63 isolates, 39 (61.9%) were confirmed as *L. monocytogenes* through nested PCR. Among these, serotype 4b was dominant and identified in four samples (9.75%). One isolate (2.56%) was identified as serotype 1/2b, while three isolates (7.7%) were identified as serotype 1/2a, and two isolates (5.13%) as serotype 1/2c. Additionally, two isolates (5.13%) showed a combination of serotypes 4b and 1/2c, suggesting potential serotype variation or co-infection within raw milk samples. The detection of multiple serotypes including the highly virulent serotype 4b, underscores the potential public health risks associated with raw milk consumption. The occurrence of isolates displaying both 4b and 1/2c serotypes warrants further investigation through genetic characterisation. These findings provide preliminary data on the distribution of *L. monocytogenes* in Sri Lanka and emphasise the importance of integrating whole genome sequencing in future studies to guide risk assessment and policy development.

Keywords: Food safety, *Listeria monocytogenes*, Multiplex PCR, Public health, Raw milk