



Listeria; A Potential Risk for Food Safety and Public Health

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Editorial

Listeria monocytogenes a well-known food borne pathogen and cause one of the most serious and life threatening disease, listeriosis. Although all aspects of these bacteria such as routes of infection, pathogenesis, prevention and control have been extensively studied, still remains a potential risk for food safety and public health [1,2].

There are several reasons which make *Listeria* a virulent food borne pathogen due to its ability to multiply at refrigeration temperatures and survive under many food processing conditions such as extreme pH, high salt concentration and low water activity [3].

Listeria is spreaded widely in nature (soil, water and animal digestive tracts). It is not able to tolerate pasteurization temperature, so food that most often associated with listeriosis are those consumed without further heat treatment such as Ready-to-Eat food (RTE) like prepared salads and sandwiches. *Listeria monocytogenes* can also form biofilms through attaching food contact surfaces such as stainless steel and polystyrene during food processing which lead its survival in hostile environments [4,5].

While the infections rate are low, as they are associated with high mortality rates particularly in immune compromised individuals therefore this pathogen is a major concern for public health and food industry [6,7].

Listeria monocytogenes represents a constant challenge for global public health, Since by WHO report, an outbreak of listeriosis in South Africa, has been ongoing from the start of 2017 [8]. The National Institute for Communicable Diseases (NICD) has confirmed 978 laboratory cases, between 1st January 2017 through 14th March 2018 from all provinces. Most of the infected cases are high risk individuals for a severe disease outcome, such as neonates, pregnant women, elderly and immune compromised persons. In this outbreak, 42% of the cases are neonates who were infected during pregnancy or delivery. WHO warned this is the largest outbreak of listeriosis globally that has been detected. They expect further cases due to the potentially long incubation period of listeriosis before the impact of the food recall is observed [8].

In conclusion, repetitive microbiological food testing is required for early detection and prevents food contamination and outbreaks of food borne illness. The best approach to control and manage *Listeria monocytogenes* in the food chain are Good Hygiene Practices (GHP), Good Manufacturing Practices (GMP), food safety/hygiene training and the application of a Hazard Analysis Critical Control Point (HACCP) system beside to consumer awareness raising about risks of this pathogen bacteria.

References

1. Law JW, Ab Mutalib NS, Chan KG, Lee LH. An insight into the isolation, enumeration, and molecular detection of *Listeria monocytogenes* in food. *Front Microbiol.* 2015;6:1227.
2. Ishola OO, Mosugu JI, Adesokan HK. Prevalence and antibiotic susceptibility profiles of *Listeria monocytogenes* contamination of chicken flocks and meat in Oyo State, south-western Nigeria: Public health implications. *J Prev Med Hyg.* 2016;57(3):E157-E163.
3. NicAogáin K, O'Byrne CP. The role of stress and stress adaptations in determining the fate of the bacterial pathogen *Listeria monocytogenes* in the food chain. *Front Microbiol.* 2016;7:1865.
4. Vivant AL, Garmyn D, Piveteau P. *Listeria monocytogenes*, a down-to-earth pathogen. *Front Cell Infect Microbiol.* 2013;3:87.
5. Abdollahzadeh E, Ojagh SM, Hosseini H, Irajian G, Ghaemi, E. Prevalence and molecular characterization of *Listeria* spp. and *Listeria monocytogenes* isolated from fish, shrimp, and cooked ready-to-eat (RTE) aquatic

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- products in Iran. *LWT - Food Sci and Technol.* 2016;73:205-211.
6. Abdollahzadeh E, Ojagh SM, Hosseini H, Ghaemi EA, Irajian G, NaghizadehHeidarlo M. Antimicrobial resistance of *Listeria monocytogenes* isolated from seafood and humans in Iran. *Microb Pathog.* 2016;100:70-74.
 7. Zhu Q, Gooneratne R, Hussain MA. *Listeria monocytogenes* in fresh produce: Outbreaks, prevalence and contamination levels. *Smith CJ ed. Foods.* 2017;6(3):21.
 8. WHO. Listeriosis – South Africa. *Disease outbreak news.* 28 March 2018.