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Prevalence of *Listeria monocytogenes* and *Staphylococcus aureus* in bovine bulk milk from dairy herds in Oyo State

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Listeria monocytogenes and *Staphylococcus aureus* are food pathogens that are of zoonotic and economic importance. These organisms are ubiquitous in nature, often found in animal products such as raw milk due to unhygienic practices during milking, handling and transportation of milk. In this study, the levels of microbial contamination (*Listeria monocytogenes* and *Staphylococcus aureus*) of fresh bulk milk were determined. A total of 290 and 165 fresh bulk milk samples were collected for the isolation of *Listeria monocytogenes* and *Staphylococcus aureus* respectively. Standard bacteriological methods were used to determine the bacterial load, isolate and characterise *Listeria monocytogenes* and *Staphylococcus aureus* in fresh bovine bulk milk from dairy herds in Oyo state antibiotics sensitivity of the isolates were determined using disc diffusion method. Bacteriological assay revealed high total mean bacterial counts of 1.5 ± 0.069 - 6.1 ± 23.19 log cfu/cm² while total mean *Listeria* counts was 1.4 ± 0.24 - 1.9 ± 0.13 log cfu/cm². The overall prevalence of contamination with *Listeria* species was 10%, upon biochemical characterization, 3.7% were identified as *Listeria monocytogenes*, 1.1% *Listeria innocua* and 5.2% *Listeria ivanovii*. *L. species* isolates showed highest resistance to cefrazidime (69.3%) and highest sensitivity to gentamicin (92.3%). Out of the 52 coagulase positive *S. aureus* detected, 13 were found to be methicillin (oxacillin) resistant which gave overall prevalence of 7.9%. Livestock associated methicillin resistant *Staphylococcus aureus* (MRSA), *Staphylococcus aureus* isolates showed very high resistance to cloxacillin and highest sensitivity to ofloxacin. The total mean bacterial counts are higher than 2 log cfu/cm² stipulated by international standard food agencies. The findings in this study indicated that contamination by *Listeria* in the study area could be attributed to the unhygienic milking procedure. The high *S. aureus* prevalence of 33.1% signifies higher risk of mastitis in the dairy cow from the study area as well as contamination from the grazing environment, poor herd hygiene, contaminated water, unhygienic milking practices and improperly washed milking bowl. There is need to improve milk quality through proper animal management and health care, prudent use of antibiotics, milk hygiene practices and effective pasteurisation thereby developing sanitation strategies for enhancing the safety of food.

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Bacteriological quality of *Rastrineobola argentea* along its value chain in Lake Victoria, Mwanza, Tanzania

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A cross-sectional study was conducted to assess bacteriological contamination in *Rastrineobola argentea* along its value chain in Lake Victoria, Tanzania. Raw and dried on raised racks and on ground *R. argentea* were randomly collected from landing sites, drying areas and retail markets. Bacteria counts, antibiotic susceptibility and PCR were performed to detect *Escherichia coli* and *Salmonella* spp. in the samples. Findings showed a significant difference in bacteria counts between raw, ground and racks dried *R. argentea*. Prevalence of *S. typhimurium* in raw *R. argentea* was 20% and in those dried on ground at processing and markets were 20% and 15%, respectively. *Salmonella* spp. were not detected in *R. argentea* dried on racks and no *S. enteritidis* was detected in this study. For *E. coli*, raw *R. argentea* had 3.1 log₁₀ mpn/g, those dried on ground had 2.7 log₁₀ mpn/g and on racks had 0.3 log₁₀ mpn/g. Both *Salmonella* spp. and *E. coli* were resistant to ampicillin, tetracycline and co-trimoxazole. Sun-drying *R. argentea* using racks is more hygienic than drying on ground as it provides good quality and safe fish for consumption. *R. argentea* were contaminated with antibiotic resistant *Salmonella* spp. and *E. coli* of public health implications.

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