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Food contamination with salmonella and human health in Kinshasa city, Democratic Republic of Congo (DRC)

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ABSTRACT

Objectives: The objective of this study was to assess the level of salmonella contamination of fish and meat from public markets, meat from butcheries and beef carcasses offered for retail sale in Kinshasa, the capital city of the Democratic Republic of Congo

Methodology and results: *Salmonella spp.* in fish and meat was isolated using the classical technique with a pre-enrichment, enrichment, isolation and identification. The mean number of colonies counted was expressed as $\log_{10}$ colony forming units per gram (log10 cfu/g). The prevalence of *Salmonella* contamination was 11.1% for fish, 18.3 % for meat from public markets, 14.4 % for meat from the butcheries and 27.5 % for beef carcasses at the public abattoir. The positive rate in the evening was higher than in the morning ($p<0.05$). The bacterial loads ranged from 2.48 - 9.84 $\log_{10}$ cfu/g.

Conclusions and applications: This study revealed salmonella contamination of fishes and meats offered for retail sale in Kinshasa city. The contamination was higher in the evening than in the morning. Salmonella are pathogenic microorganisms significant in food infection and intoxications. Results from this study indicate that the food hygiene is poor demonstrating the importance of controlling this pathogen in food processes

Key words: Salmonella, meat, retail sale, abattoir, Democratic Republic of Congo