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Presence of *Salmonella* spp. in ground beef and cattle meatball

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Statement of the Problem: Nowadays, millions of people have died because of the foodborne diseases. Cattle origin meats have also important role in human salmonellosis. The aim of this study was to determine *Salmonella* spp. in ground beef and raw meatball (cattle origin) samples consumed in Amasya province, Turkey.

Methodology & Theoretical Orientation: In the study, a total 100 samples (50 ground beef and 50 meatball samples) randomly collected from supermarkets and butchers in Amasya province were analyzed. Two enrichment step classic culture technique was applied for the microbiologic isolation. For the isolation, Buffered Peptone Water (BPW) was used for pre-enrichment step and Rappaport Vassiliadis Broth (RV-Broth) was applied for selective enrichment step and Xylose Lysine Tergitol 4 (XLT4 with supplement) was used for the selective agar. For the confirmation of the isolates in molecular levels, single target PCR assay was used. For this purpose, *invA* and *oriC* genes were determined in the isolates.

Findings: *Salmonella* spp. were determined in 6 (6%) of samples. Distribution of 6 samples; 4 (n=50, 8%) of 6 was determined in ground beef samples and 2 (n=50, 4%) of 6 was determined in meatball samples.

Conclusion & Significance: Global incidence of *Salmonella* spp. infections in humans has shown a significant increase. There have been various *Salmonella* isolation ratio of ground beef and meatball samples reported from different part of the world, and the results are changing from 0.0% to 26.7%. In the Turkey, *Salmonella* spp. contamination ratio is changing from 0.0% to 18.0%. Our study results are between these ratios. To our knowledge, there has not been a study on this matter. As a result, ground beef and meatballs were contaminated with the most widespread foodborne bacteria, *Salmonella* spp. These kinds of samples may be a potential vehicle of transmission of Salmonella spp. to humans. Therefore, it is determined that *Salmonella* could be threat to public health via consumed ground beef or meatball samples.

Biography

Belgin Sırıken is an expert in Food Microbiology, Safety and Chemical Properties of Particularly Animal Origin Foods. She has completed her PhD at Ankara University, and now she is working as Prof. Dr. at Ondokuz Mayis University, Samsun, Turkey. Her focus is on Molecular Food Microbiology.

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