Serotyping of Salmonella in Unpasteurized Cream Samples and Their Antibiotic Resistance Pattern

Abstract

Background and Objective: Cream, a rich dairy product, with a neutral PH and low preservation time is a suitable medium for microbial growth. Salmonella is one of the most important pathogens in causing food poisoning and human gastroenteritis. This study aimed at investigating the quality of traditional cream for the bacterial contamination.

Material and Methods: In this cross-sectional study, 196 non-pasteurized cream samples were collected from 5 regions of Hamedan, Iran. After dilution in phosphate buffer and serial dilution preparation, Salmonella was transferred to Rappaport-Vassiliadis (RV) enrichment medium according to CDC guidelines. After 24 h incubation at 37 °C, a loop was inoculated in MacConkey and Hektoen Enteric (HE) Agar. The suspected colony phenotype was examined and their identification confirmed by API-20 E.

Results: The samples (29%) were contaminated with at least one kind of bacteria, Salmonella Spp (4.59%) and Yersinia Spp (2.55%). The other bacteria like Escherichia, Enterobacter, Klebsiella, and Citrobacter were also isolated. Nine samples were contaminated with two kinds of bacteria.

Conclusion: The presence of bacteria such as Salmonella and Yersinia in unpasteurized cream indicates that more quality control needs to be applied to the traditional crème produced in the city by health control office of food products.

Keywords: Cream, Salmonella SPP, Coliform, Yersinia Enterocolitica, Hamedan