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Microbiological quality of ready-to-eat foods in Barbados, West Indies

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Statement of the Problem: Barbados is the most easterly of the Caribbean islands and derives a large part of its economic stability from tourism. The Barbados Ministry of Health's Public Health Department regularly conducts food safety training sessions with food handlers and inspects food businesses annually. However, it is also important that the microbiological quality of foods prepared for consumption can be assessed as an indicator of proper food safety and hygienic practices.

Methodology: Ready-to-eat (RTE) foods include those that are raw or cooked, hot or chilled that can be consumed without further heat-treatment including re-heating. RTE food safety guidelines indicate that these foods should be free of *E. coli* O157:H7, *Campylobacter* and *Salmonella* spp. *E. coli* contamination should not exceed 100 cfu/g and the Total Aerobic Plate Count (TAPC) should not exceed a range of 104–107 cfu/g, depending on the food type. Counts exceeding these limits indicate poor hygienic practices, failure of process or cross contamination. In two separate studies conducted between 2014 and 2016, samples of ready-to-eat foods were collected from food businesses located in popular tourist districts in Barbados. In the first study, 206 samples were processed for *Salmonella* and *Campylobacter* spp. and in the second study, 120 samples were processed for TAPC, coliform, *E. coli* counts and also screened for *Salmonella* spp., *Campylobacter* spp. and *E. coli* O157:H7.

Findings: A low prevalence of *Salmonella* spp. [*S. enteritidis*, 1.5% (3/206) and 0.0% (0/120)] and *Campylobacter* spp., 3.4% (7/206) and 2.5% (3/120) and *E. coli* O157: H7, 0.0% (0/120) was found. Total aerobic plate counts were border line to unsatisfactory in 22.5% (27/120) of food sampled. The low prevalence of pathogens in RTE foods in Barbados may indicate that food preparation and hygienic practices are satisfactory.

Biography

Carol Hull-Jackson is pursuing his PhD in Veterinary Public Health and a part-time Lecturer at University of the West Indies. Her main areas of research include Zoonotic Diseases such as Leptospirosis, Food Safety and Food Microbiology.

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