

ABSTRACT
Food Safety and Tourism in Barbados: Risk Assessment and Characterisation of
Bacterial Pathogens

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This Ph.D. research investigated four previously unexplored aspects of food safety in Barbados. Firstly, visitors were surveyed concerning their food safety perceptions at The Grantley Adams International Airport (GAIA) (n=240) and the Bridgetown Cruise Terminal (BCT) (n=158). Most respondents at GAIA and BCT had a positive perception of food safety (75.8% and 99.4%) and a low frequency of foodborne illness (6.0% and 0.6%) respectively. Secondly, a 12-year review recorded 24 FBDOs with 215 illnesses and one hospitalisation. *Salmonella* Enteritidis phage type 8 was most implicated while eggs and poultry were the primary vehicles. Thirdly, the microbiological contamination of ready-to-eat (RTE) foods was surveyed in two studies. In the first, 206 samples were processed for *Salmonella* and *Campylobacter* spp. and in the second, 120 samples were processed for total aerobic plate count (TAPC), coliform count, *E. coli* count and screened for *Salmonella* spp., *Campylobacter* spp. and *E. coli* O157:H7 by polymerase chain reaction (PCR). A low prevalence of *Salmonella* spp. [Enteritidis - 3/206 (1.5%) and 0/120 (0%)] and *Campylobacter* spp. [8/206 (3.9%) and 2/120 (1.7%)] and no *E. coli* O157: H7 were found. Fourthly, a risk assessment of the processing of RTE foods was conducted at eight food outlets. Two (25.0%) received failing scores in the foodborne illness risk factor assessment and *Salmonella* spp. and *Campylobacter* spp. were detected in 0.0% (0/53) and 3.7% (2/53) of food samples respectively. The results show that while food safety is acceptable the implementation of a Hazard Analysis Critical Control Point (HACCP) approach is necessary.

Keywords: Barbados; *Campylobacter*; *E. coli* O157:H7; Food safety; HACCP; Risk assessment; Risk perception; *Salmonella*; Tourism; West Indies.