

ABSTRACT

Qualitative Risk Assessment of *Salmonella* Species in Large Shell Eggs from Selected Supermarkets, Groceries and Market Vendors in Trinidad and Tobago

Devika Heeraman

One of the leading causes of foodborne illness (FBI) in Trinidad and Tobago (T&T) is *Salmonella*. Egg is one of the major means of transport for *Salmonella* transmission via trans-ovarian and trans-shell pathways. Trans-shell pathways may occur during the storage, distribution and preparation stages. *Salmonella* outbreaks from egg has occurred worldwide and more specifically in T&T since the 1980s. Therefore, a study was done to find the risk associated with contamination of the eggs via trans-shell infection, from storage to consumption of eggs bought from supermarkets, groceries and market vendors in the Tunapuna and St. Augustine areas of T&T. The eggshells and egg contents of 384 eggs were analysed and *Salmonella* spp. was confirmed from one (1) eggshell sample. However, negative results were obtained from the egg content samples. Thus, a prevalence of *Salmonella* on the eggshell was found to be 3.125% and in the egg contents 0%. Therefore, the risk associated with obtaining *Salmonella* from both the egg shell and the egg contents is low. In addition, the prevalence of *Salmonella* from eggs sampled at the supermarkets and the groceries was both 0%. In contrast, the prevalence of *Salmonella* from eggs sampled at the market was 12.5%. As a result, the risk estimates of *Salmonella* infection from supermarkets, groceries and market vendors in Trinidad is low. *Salmonella* contamination on the eggshell from the market was due to cross-contamination during storage or distribution and unhygienic conditions on the farms. This is mainly due to a lack of monitoring, management and handling at the farms. Therefore, public education on egg preparation before consumption needs to be ongoing to keep consumers at a low risk of gaining *Salmonella* infection.

Keywords: Devika Heeraman; Eggs; Risk assessment; *Salmonella*.