

## ABSTRACT

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

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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*.