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PREVALENCE OF *SALMONELLA* STRAINS ISOLATED FROM INDUSTRIAL QUAIL EGGS AND LOCAL DUCK EGGS, IRAN

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ABSTRACT

Salmonella is a worldwide public health issue as one of the reasons for foodborne illness for humans and animals. Eggs can be a significant source of this bacterium and the prevalence of salmonellosis. Thus, the control of contamination by *Salmonella* has become essential for the consumer. This study investigates the prevalence, and serotype distribution of *Salmonella* isolates recovered from industrial quail eggs and local duck eggs collected from Qazvin city, Iran, in 2020. In this cross-sectional study, 130 eggs were collected randomly (including 100 industrial quail eggs and 30 local duck eggs) from the retail and stores in Qazvin city, Iran. *Salmonella* was isolated from eggshells and egg contents using conventional culture methods for selective isolation of *Salmonella* and biochemical identification, suspect colonies confirmed by Real-Time PCR assay for the amplification and detection of *Salmonella* using specific primers. A 16.67% prevalence of *Salmonella* was observed from duck eggs; however, no *Salmonella* recovered from quail eggs. *Salmonella* was isolated from 0% (0 groups of 6 groups) and 16.67% (1 group of 6 groups) of eggshells and contents of duck eggs, respectively. Isolates from positive egg samples characterized as *S. Typhimurium*. Although *Salmonella* infection was low in this study, Continuous monitoring is required to prevent health hazards associated with poultry products in this area, and the presence of duck eggs can be a public health problem. The results of this study are essential for the government, consumers, regulators of poultry products, producers like poultry farmers.

1.Introduction

Salmonella is one of the significant foodborne enteric pathogens globally and causing enormous economic losses in the poultry industry. Non-typhoidal *Salmonella* causes 4.07 million Disability Adjusted Life Years (Huang et al., 2016; Kirk et al., 2015). The serotype is a phenotypic trait according to which *Salmonella* is divided into groups A, B, C, D and *Salmonella* with over 2600 serotypes is a widespread zoonotic pathogen (Abdel-Maksoud et al., 2015; Hai et al., 2020).

Salmonella enterica serovar *Typhimurium* and *Salmonella enterica* serovar *Enteritidis* are the most current causes of non-typhoidal salmonellosis throughout the world (Lee et al., 2015); *S. Typhimurium* and *S. Enteritidis* are