Detection of human enteric viruses in water and shellfish samples collected in Sicily

Giuseppa PURPARI¹, Santina DI BELLA¹, Francesca GUCCIARDI¹, Francesco MIRA¹, Santino BARRECA¹, Laura DI PAOLA¹, Giusi MACALUSO¹, Patrizia DI MARCO¹ & Annalisa GUERCIO¹*

Viral pathogens are a common cause of gastroenteritis. Enteric pathogen diseases are caused by contaminated food products as well as drinking and recreational water. Among the food products, shellfish are of great importance for human enteric viruses, since they can be eaten both raw or undercooked.

Foodborne and waterborne infections cause outbreaks affecting a large number of people. As illnesses result from the failure to control a hazard, the aim of this study was to detect the main pathogenic human enteric viruses in the environment by evaluating the presence of viral contamination in shellfish and water collected in Sicily. Hepatitis A virus, Norwalk virus, Adenovirus and Rotavirus were detected over a period of five years (2012-2016) by nucleic acid amplification by end-point and real-time PCR.

Data on shellfish viral contamination is useful since it provides information on the presence of contamination in the environment, chiefly in shellfish production areas. It also helps to monitor the distribution of the viral pathogens in local territory.

¹Istituto Zooprofilattico Sperimentale della Sicilia ‘Adelmo Mirri’ Via Gino Marinuzzi, 3 90129 Palermo, Italy

* Corresponding author. E-mail: annalisa.guercio@izssicilia.it