Abstract

Pathogen Surveillance of Viral Acute Gastroenteritis in Korea, 2019

Cho Seung-Rye, Chae Su-Jin, Lee Deog-yong, Choi Wooyoung, Han Myung-Guk
Division of Viral Diseases, Bureau of Infectious Disease Diagnosis Control, Korea Disease Control and Prevention Agency (KDCA)

Acute diarrheal disease, a water and food-borne disease that causes symptoms such as vomiting, diarrhea and abdominal pain, is mainly caused by ingestion of water and food contaminated with pathogens. In collaboration with 70 hospitals and 17 health and environmental research institutes, the Korea Disease Control and Prevention Agency (KDCA) monitors acute diarrheal disease and characterizes the causative agent(s). This study analyzed the detection rates of five viruses (norovirus, group A rotavirus, enteric adenovirus, astrovirus, sapovirus) in the feces of patients who visited or were hospitalized for diarrhea in 2019: 10,157 cases. Viral pathogens were detected in 1,258 cases (12.8%) of the collected samples. Pathogen detection rates were high in those under 5 years of age (29.1%, 807 cases/2,776 cases) and norovirus was detected (18.9%, 526 cases/2,776 cases). Norovirus was detected monthly from January to May and group A rotavirus was detected between February and March, but enteric adenovirus, astrovirus, and sapovirus had no distinct monthly characteristics. The main genotypes of detected enteric virus were GII.4 for norovirus, F41 type for enteric adenovirus, 1a type for astrovirus, and GI.1 for sapovirus. In recent years, the epidemic of enteric viruses, which has a high detection rate in winter, continues until spring. Based on this study's detection of various genotypes in addition to major genotypes, continuous pathogen monitoring is required to identify changes in epidemic trends.

Keywords: Viral acute gastroenteritis, Acute diarrheal disease, Surveillance, Norovirus, Group A rotavirus, Enteric adenovirus, Astrovirus, Sapovirus

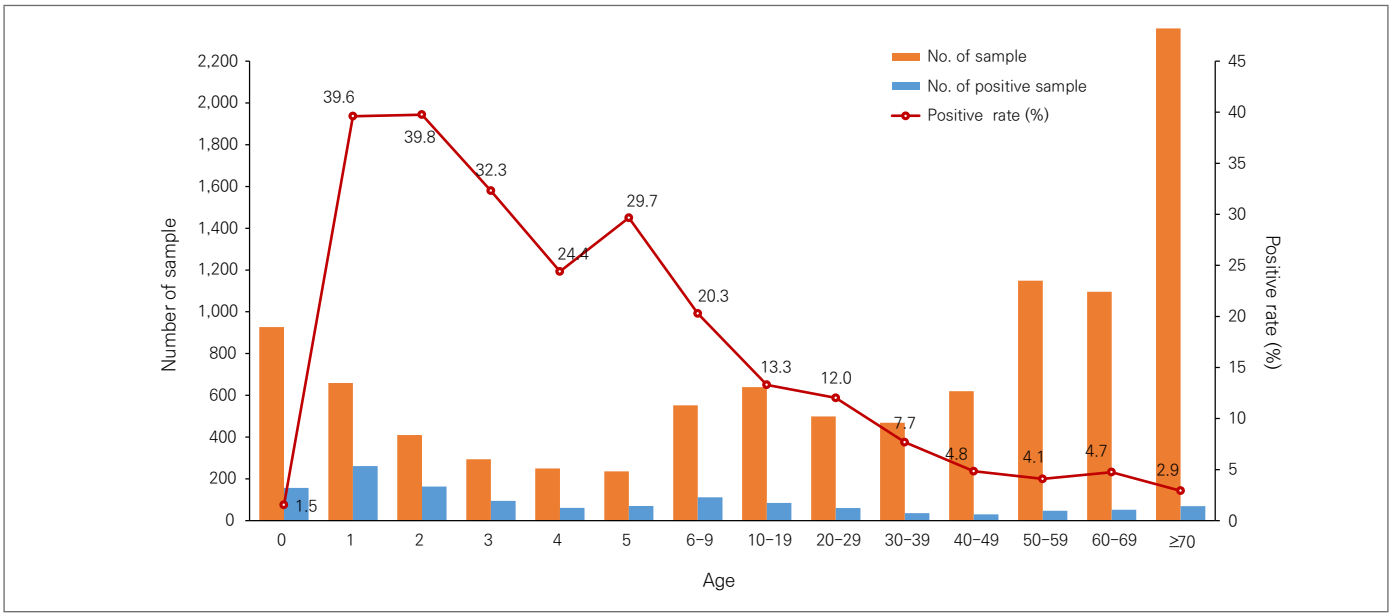

Figure 1. Age distribution of viral acute gastroenteritis in Korea, 2019

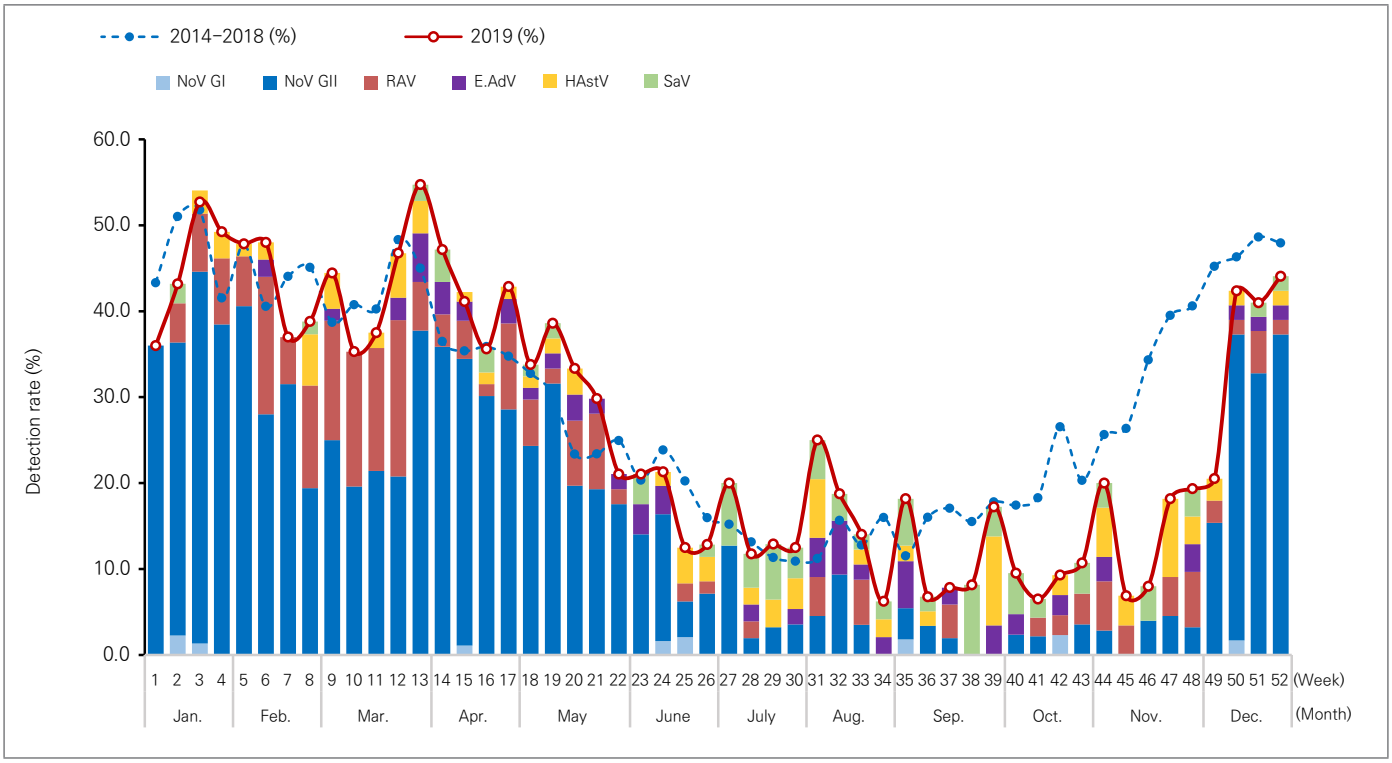

Figure 2. Weekly and monthly detection rates of viral acute gastroenteritis in Korea, 2019

* NoV GI: norovirus GI; NoV GII: norovirus GII; RAV: group A rotavirus; E.AdV: enteric adenovirus; HAstV: human astrovirus; SaV: sapovirus

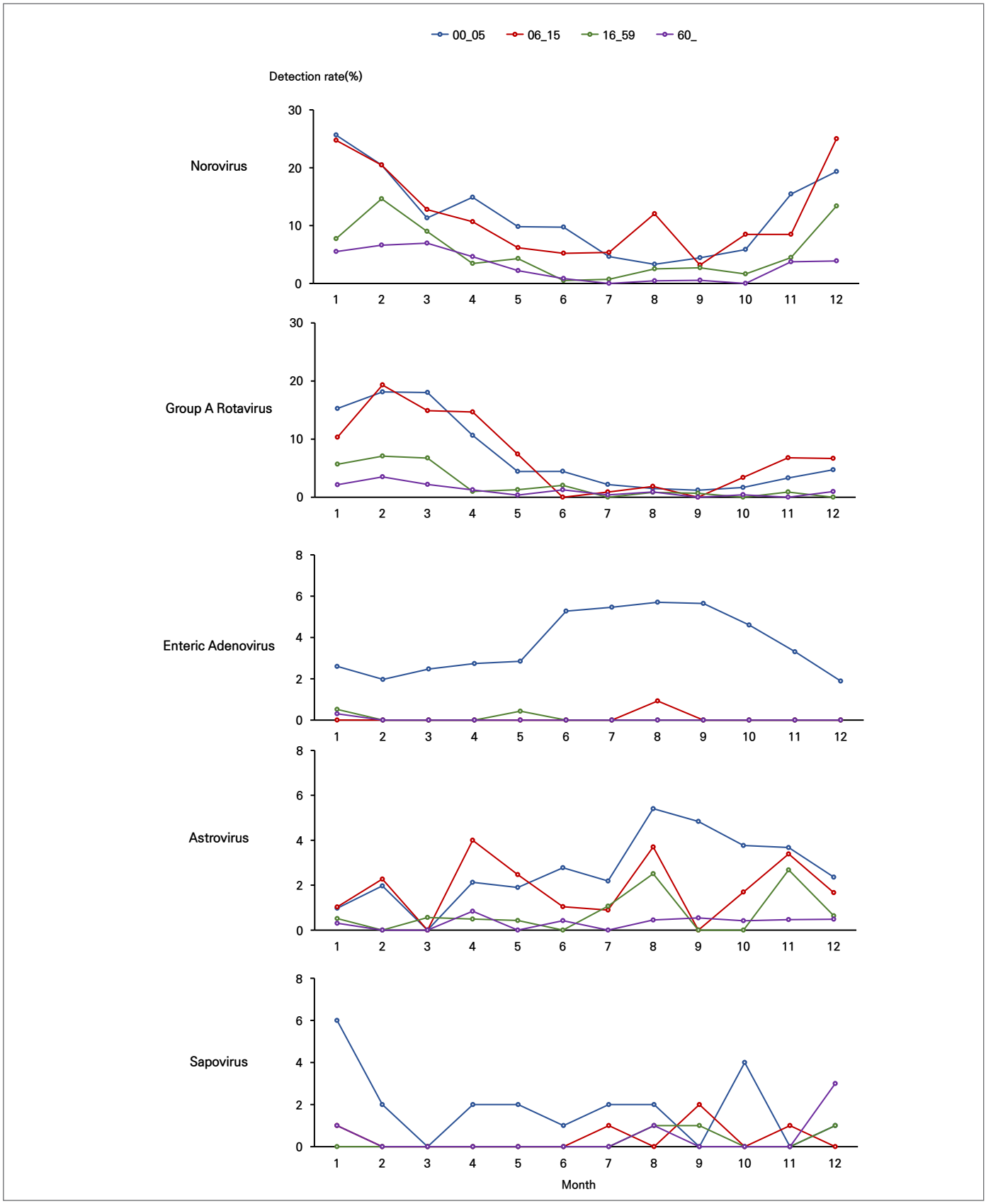

Figure 3. Monthly distribution of viral gastroenteritis in Korea, 2019, by age

* Age group distributions were grouped in four segments: 00_05, 0 to 5 years old; 06_15, 6 to 15 years old; 16_59, 16 to 59 years old; 60_, over 60 years old

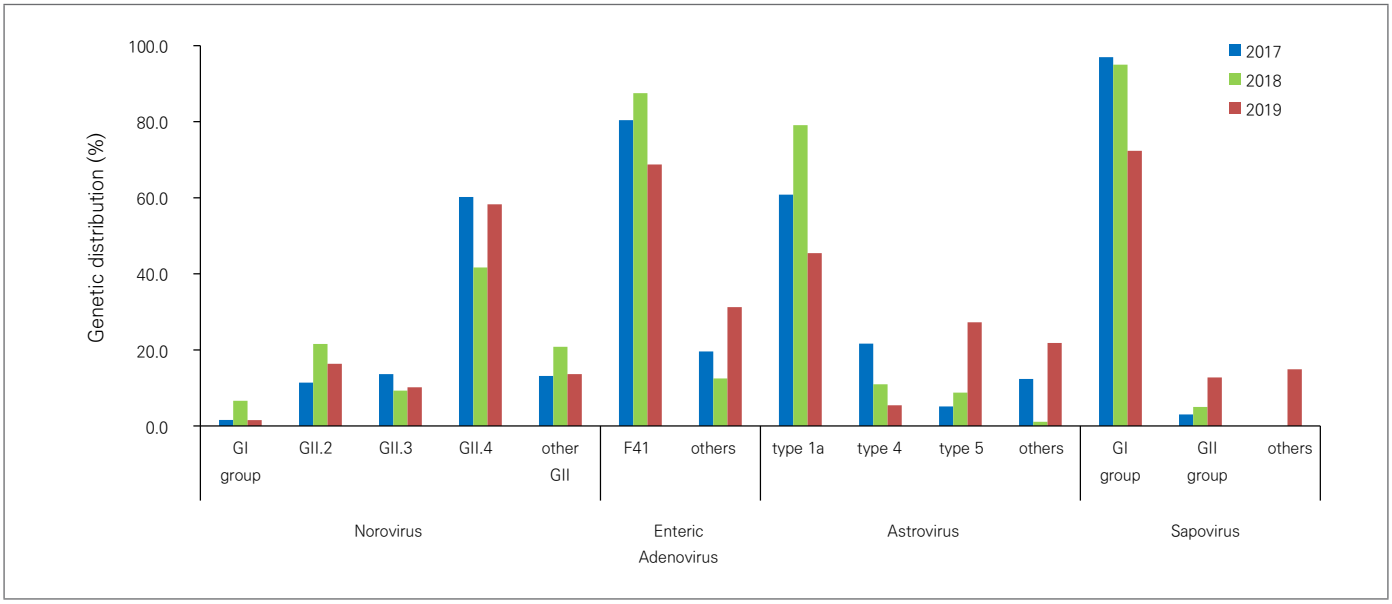

Figure 4. Genotype distribution of acute viral gastroenteritis in Korea, 2017–2019