

## Viruses causing Severe Acute Respiratory Illness (SARI) and Influenza Like Illness (ILI) in adult patients at a teaching hospital in Sri Lanka

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The WHO global influenza surveillance standards define the surveillance case definitions for ILI and SARI. Early and rapid detection of respiratory viruses causing these illnesses is important in minimizing unnecessary antibiotic prescriptions and early commencement of antiviral therapy for selected patients. The study aimed to identify the common respiratory viruses in patients presented with SARI and ILI. Nasopharyngeal swab specimens collected from consented adult patients presented to the University Hospital of Kotelawala Defense University with SARI and ILI were tested for respiratory pathogens by a real-time multiplex PCR. Of the 114 patients, 79.8%(91/114) were SARI and 20.2%(23/114) were ILI patients. Of 114 specimens tested, 66.7%(76/114) were PCR-positive for a bacterial or viral pathogen. PCR-positive rates of SARI and ILI patients were 68.13%(62/91) and 60.87%(14/23) respectively. Of the positive specimens, 65.78%(50/76) were positive for viruses. Mono viral infection was detected in 52%(26/50) patients while coinfection with other viruses was observed in 12%(06/50). Co-infections/colonization with bacteria were present in 36%(18/50) patients. The type of viruses detected in 50 virus positive specimens were SARS CoV-2 38%(19/50), Influenza A 24%(12/50), Parainfluenza virus 22%(11/50), Human Rhinovirus /Enterovirus 18%(09/50), Adenovirus 14%(07/50), Respiratory Syncytial Virus 12%(06/50), Boca virus 8%(04/50), Influenza B 6%(03/50), and metapneumovirus 2%(01/50). At least one viral respiratory pathogen was detected in 43.8%(50/114) of the specimens. Rapid diagnosis of causative agents and careful selection of patients who need antibiotics and antivirals are needed. Clinical correlation of molecular test results is also important in deciding antimicrobial therapy since some viral and bacterial pathogens may represent colonization.

**Keywords:** *respiratory viruses, severe acute respiratory illness, influenza like illness, Sri Lanka*