

Respiratory syncytial virus associated pediatric hospitalizations during 2023-2025

In Georgia

Respiratory syncytial virus (RSV) is a leading cause of pediatric hospitalizations due to respiratory infections worldwide, including in Georgia. As in other countries, RSV circulation in Georgia coincides with the seasonal circulation of influenza viruses. Among pediatric patients especially children under 5 years of age RSV frequently leads to severe complications of the lower respiratory tract.

As part of this study, nasopharyngeal swab samples were analyzed from hospitalized pediatric patients at the Iashvili Central Children's Hospital in Tbilisi collected during 2023–2025. Iashvili Clinic serves as a central facility for children with severe acute respiratory infections (SARI). These samples were tested for RSV using polymerase chain reaction (PCR) methodology.

Among the hospitalized SARI cases, from the 40th week of 2023 to the 20th week of 2024, samples from 717 hospitalized patients were tested at Iashvili Clinic, of which 232 cases of respiratory syncytial virus were confirmed by laboratory testing. In the following season, from the 40th week of 2024 to the 20th week of 2025, 739 samples from hospitalized patients were tested, and 106 RSV cases were confirmed. In these samples, RSV was the most frequently identified pathogen compared to other respiratory viruses. During the 2023/2024 season, RSV accounted for 33% of tested samples (232/717), and approximately 50% of RSV cases (142 out of 281) were detected in children under 1 year of age (OR 3.93; 95% CI 2.81–5.51; $p < 0.0001$). In the 2024/2025 season, RSV accounted for 14% of tested samples (106/739), and approximately 27% of RSV cases (77 out of 282) were confirmed in children under 1 year of age (OR 5.44; 95% CI 3.45–8.61; $p < 0.0001$).

Respiratory syncytial virus is one of the leading causes of pediatric hospitalizations due to respiratory infections worldwide, including in Georgia. Genetic characterization and

epidemiological surveillance of the RSV virus are essential for the development of effective strategies, particularly in terms of immunization.