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| **In-hospital complications associated with RSV in children under two years**  |
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| **Introduction/Aim:** Respiratory syncytial virus (RSV) is a common viral pathogen of acute lower respiratory infections (ALRIs) in children <2 years. However, limited literature exists investigating the severity of disease and in-hospital complications associated with RSV-ALRIs compared to other viral ALRIs. The therapeutic landscape of RSV is expected to change substantially over the coming years and better understanding of the complete spectrum of severe RSV disease burden compared to other respiratory viral infections in children will be crucial for policy decisions around uptake of emerging RSV prophylactics when they become available.**Methods:** A retrospective study was conducted among children <2 years hospitalised with ALRIs at Sydney Children’s Hospital Network (SCHN) between 2020-2022. Laboratory results for viral aetiology were retrieved from medical records. Demographic and clinical characteristics were compared between equal numbers of RSV-positive and RSV-negative children. Poisson regression models were used to estimate the adjusted prevalence ratio (aPR) associated with in-hospital complications, including length of stay >2 days, need for intensive care unit (ICU) transfer or mechanical ventilation, between the two groups.**Results:** This study included 660 children aged <2 years hospitalised with ALRIs (330 with RSV-ALRI and 330 with non-RSV ALRI) at SCHN. Children with RSV-positive compared to RSV-negative ALRIs were likely to be older (12 vs 8 months, p<0.001), developed more symptoms and signs and were more likely to require oxygen and longer time on respiratory support. Children with RSV were also more likely to be hospitalised for >2 days (aPR 1.55, p<0.001). There were no differences in need for ICU transfer or mechanical ventilation.**Conclusion:** This study suggests RSV in young children is associated with significant in-hospital complications contributing to a better understanding of disease prognosis and healthcare needs, and highlights the need for prioritising RSV therapeutics within the country when they become available.**Grant Support:** No specific funding was attained for this project.**Key Words:**Respiratory syncytial virus (RSV), acute lower respiratory infection (ALRI), complications, hospitalisation, children**Conflict of Interest:**At times Dr Nusrat Homaira has received consultation fees from Sanofi, Pfizer and MSD Australia. |