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Patterns of Respiratory Viral Infections in Children Hospitalized in Hong Kong Before and After COVID-19

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Introduction

Respiratory viral infections in children are a leading cause of hospitalization worldwide. These infections are responsible for a significant burden on healthcare systems, leading to increased hospital admissions, prolonged hospital stays, and sometimes severe complications, particularly in vulnerable populations like young children. Prior to the COVID-19 pandemic, respiratory viral infections in Hong Kong were commonly caused by viruses such as respiratory syncytial virus, influenza, rhinovirus, and parainfluenza, among others. However, the onset of the COVID-19 pandemic has fundamentally changed the epidemiology of respiratory infections, with potential shifts in virus circulation, seasonal patterns, and infection rates in children. This article explores the changes in the patterns of respiratory viral infections in children hospitalized in Hong Kong, comparing data from before and after the COVID-19 pandemic. It highlights the types of respiratory viruses involved, the impact of public health measures, and the implications for healthcare systems and child health [1,2].

Description

Before the COVID-19 pandemic, Hong Kong faced seasonal surges in respiratory viral infections, particularly during the winter months. RSV is one of the leading causes of bronchiolitis and pneumonia in young children. The virus typically circulates in winter, with peak activity occurring between December and March. Hospitalizations due to RSV-related infections were a significant concern, especially among infants and those with underlying conditions. Influenza also caused significant morbidity and mortality in children, particularly during annual flu seasons. Hospital admissions related to influenza were highest in the winter months, with children under 5 years and those with chronic medical conditions being at the highest risk. Rhinoviruses, the most common cause of the common cold, were often associated with mild upper respiratory infections but could also lead to more severe conditions like asthma exacerbations and pneumonia in some cases. Parainfluenza viruses caused a range of respiratory illnesses, from mild upper respiratory infections to more severe conditions like croup and pneumonia. Like RSV and influenza, parainfluenza infections were seasonal, with peak incidences occurring in the autumn and winter months. Adenoviruses could cause a variety of respiratory illnesses, from mild upper respiratory infections to more severe conditions such as viral pneumonia, particularly in immunocompromised children.

In Hong Kong, the burden of these respiratory viral infections was closely monitored, and hospitals often saw surges in admissions during peak seasons. These admissions were associated with high rates of morbidity, especially among younger children, the elderly, and children with underlying medical conditions. The COVID-19 pandemic, caused by the SARS-CoV-2 virus, brought about sweeping changes to healthcare practices, social behavior, and viral epidemiology worldwide. The virus primarily spread through respiratory droplets and aerosols, leading to strict public health measures such as lockdowns, travel restrictions, social distancing, mask mandates, and enhanced hygiene protocols. In Hong Kong, these measures were implemented rapidly in early 2020. Schools were closed, gatherings were restricted, and public spaces were disinfected regularly. These public health interventions aimed to curb the spread of COVID-19, but they also had unintended consequences on the transmission dynamics of other respiratory viruses. The immediate impact of the pandemic on the prevalence of other viral infections in children was profound [3-5].

Conclusion

The COVID-19 pandemic has dramatically altered the patterns of respiratory viral infections in children hospitalized in Hong Kong. Prior to the pandemic, respiratory viruses such as RSV, influenza, and rhinovirus were the primary causes of hospitalizations. However, the emergence of COVID-19 and the public health measures implemented to curb its spread caused a dramatic reduction in the circulation of these viruses during the initial phases of the pandemic. As the world emerges from the pandemic, healthcare systems are seeing a resurgence of respiratory viral infections, as well as the co-circulation of COVID-19 and other viruses. This underscores the importance of continued surveillance, public health preparedness, and vaccination efforts, particularly in children, who remain vulnerable to respiratory infections. The lessons learned from this period—about the impact of public health measures, the need for effective surveillance, and the importance of vaccination—will be crucial for managing future respiratory virus seasons and preparing for potential new pandemics. The long-term impact of COVID-19 on children's respiratory health and immunity will likely be felt for years to come, necessitating ongoing research and adaptation of healthcare policies.

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Conflict of Interest

None.

References

1. Shen, Xu-Rui, Rong Geng, Qian Li and Ying Chen, et al. "ACE2-independent infection of T lymphocytes by SARS-CoV-2." *Signal Transduct Target Ther* 7 (2022): 83.
2. Billard, Marie-Noëlle and Louis J. Bont. "Quantifying the RSV immunity debt following COVID-19: A public health matter." *Lancet Infect Dis* 23 (2023): 3-5.
3. Messacar, Kevin, Rachel E. Baker, Sang Woo Park and Hai Nguyen-Tran, et al. "Preparing for uncertainty: Endemic paediatric viral illnesses after COVID-19 pandemic disruption." *Lancet* 400 (2022): 1663-1665.

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4. Chua, Gilbert T., Joshua Sung Chih Wong, Ivan Lam and Polly Po Ki Ho, et al. "Clinical characteristics and transmission of COVID-19 in children and youths during 3 waves of outbreaks in Hong Kong." *JAMA Netw Open* 4 (2021): 218824-218824.

5. Feldman, Charles and Ronald Anderson. "The role of co-infections and secondary infections in patients with COVID-19." *Pneumonia* 13 (2021): 1-15.

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