**BURDEN OF INFLUENZA-ASSOCIATED NEUROLOGICAL COMPLICATIONS IN HONG KONG CHILDREN**

Michael KL Yu, Cherry LP Pik, Wilfred HS Wong, Alvin CC Ho, Annie TG Chiu, Helen H Zui, Godfrey CF Chan*, Sophia HS Chan*

**Department of Paediatrics and Adolescent Medicine, Queen Mary Hospital, The University of Hong Kong, Hong Kong SAR**

School of Public Health, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong SAR

*Corresponding Authors

**Summary**

We present a retrospective population-based study of hospitalized paediatric patients with laboratory-confirmed influenza infection from 2014 to 2018. We identified 2,467 cases of influenza-associated neurological complications (IANCs) that accounted for 8.8% of hospitalized patients with influenza during the study period. The IANCs included febrile seizure (n=1998, 81.0%), myositis (n=284, 11.5%), seizure with fever (n=137, 5.6%), influenza-associated encephalitis/encephalopathy (IAE) (n=47, 1.9%) and Guillain–Barre syndrome (GBS) (n=1, 0.04%). Most children with IANC were aged 6-6 years (85.9%) and febrile seizure (aged < 6 years) is the most common IANC. IAE, on the other hand, is the most severe IANC with significant disease burden and caused 4 deaths. We found the decreasing trend of annual percentage of IANCs is associated with an increase in seasonal influenza vaccination coverage rate.

**Background**

There are few population-based studies on the spectrum of the influenza-associated neurological diseases (IANCs). We aim to study both the disease spectrum and burden of IANCs in all admitted paediatric patients in the public hospitals from 2014 to 2018 in Hong Kong.

**Methods**

- **Clinical Data Analysis and Reporting System (CDARS) search:** Hospital Authority inpatient database for searching of paediatric patients with confirmed influenza infection.
- **Influenza Associated neurological complications (IANC):** Searching of 8 types of neurological condition*.
- **For patient with IANCs:** Gender, Age, Length of stay, PICU admission, Mechanical ventilation, and Clinical outcome were collected and analysed.

**Percentage of IANC and Coverage rate of Seasonal influenza vaccination (SIV)**

- **A decreasing trend of IANC from 2014 to 2018**
- **The coverage rate of SIV is increasing at the same period**

**Clinical burden of IANC**

- **The median age of each IANC was below 7 years old**
- **Male to female ratio in IANC: 1.9 to 1**
- **The disease burden of IAE is substantial and most significant**
- **IAE accounts for 4 death cases with mortality rate of 8.5%**

**Table 2: Studies on Influenza-associated neurological complications**

**Research Group**

- **China:** Yuen, C.C., Maung. O., Doki, C., A. Hong My, J., Juedes, B., et al. (2012). The prevalence and burden of IAE in a tertiary hospital in a large urban Chinese community.

**References**