

Containing Influenza Outbreaks with Antiviral Use in Long-term Care Facilities in Taiwan, 2008–2013

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Abstract

Background:

Influenza spreads rapidly in long-term care facilities (LTCFs) while residents usually have higher risk for severe complication. Antiviral interventions, including antiviral treatment for patients and prophylaxis for contacts has been implemented but no consistent guideline in Taiwan yet. Our study aimed to analyze the epidemiological characteristics of influenza outbreaks in LTCFs and to identify factors influencing the magnitudes.

Methods:

In Taiwan, local public health authorities verified outbreaks in LTCFs and reports was registered to the Outbreak Registration System in Taiwan CDC. We conducted a retrospective cohort study and reviewed those reports of influenza outbreaks in LTCFs during 2008–2013 to record the implementation of antiviral interventions. An influenza outbreak was defined as ≥ 3 cases of influenza-like illness occurring within 48 hours in close proximity and PCR testing determined influenza virus as the etiologic agent. Logistic regression analysis was performed to identify factors resulting an outbreak with attack rate $\geq 20\%$.

Results:

Total 81 influenza outbreaks were enrolled; 70 (86%) were caused by influenza A and 37 (47%) occurred in summer. Seventy (86%) implemented antiviral treatment, and 30 (37%) used prophylaxis. Median days from outbreak start to antiviral treatment was 2.5 (range 1–25 and to prophylaxis was 7 (range 3–20). Starting antiviral treatment within 3 days after outbreak start decreased the risk of attack rate $\geq 20\%$ to one-fourth in LTCFs (odds ratio [OR] 0.26, 95% confidence interval [CI] 0.10–0.66), but the effect of prophylaxis was not statistically significant (OR 1.62, 95% CI 0.61–4.27).

Conclusions:

Early initiation of antiviral treatment may reduce outbreak magnitude. Clinicians should be

aware and encouraged to identify influenza patients and start antiviral use earlier.

Keywords:

influenza, outbreak, antiviral intervention, long-term care facilities