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LUNG ALERT

Risk factors associated with superspreading events in SARS

▲ Yu IT, Xie ZH, Tsoi KK. Why did outbreaks of severe acute respiratory syndrome occur in some hospital wards but not in others? *Clin Infect Dis* 2007;**44**:1017–25.

The severe acute respiratory syndrome (SARS) outbreak of 2003 originated in Hong Kong, China, and 71.1% of the subsequent infections in Hong Kong were attributable to superspreading events. Most of these superspreading events occurred in hospitals.

This case control study identified risk factors associated with outbreaks of SARS in hospital wards in Guangzhou and Hong Kong, China. Case wards were wards in which superspreading events occurred and control wards were wards in which patients with SARS were admitted, but no superspreading events occurred. A superspreading event was defined as the development of ≥ 3 new cases of SARS in the 2–10-day period after the admission of an identifiable index patient, or the development of a cluster of ≥ 3 new cases of SARS in an 8-day period, when there was no known index case.

Results were collected from 86 wards (40.7% case wards) in 21 hospitals in Guangzhou and 38 wards (34.2% case wards) in 5 hospitals in Hong Kong. The main environmental and administrative factors associated with the occurrence of superspreading events were:

- a minimum distance between beds of ≤ 1 m,
- lack of washing or changing facilities for staff
- staff working while experiencing symptoms
- workload of >2 patients per healthcare worker.

Significant host factors associated with superspreading events included the use of oxygen therapy, a nebuliser and/or bi-level positive airway pressure ventilation.

This study identifies a number of factors associated with the occurrence of superspreading events. Although confined to two cities in southern China, with the threat of avian flu worldwide other countries may benefit from adopting some of these infection control measures to help to minimise outbreaks of respiratory infection.

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