

Incidence, hospitalization, and mortality in children aged five years and younger with respiratory syncytial virus-related diseases: A systematic review and meta-analysis

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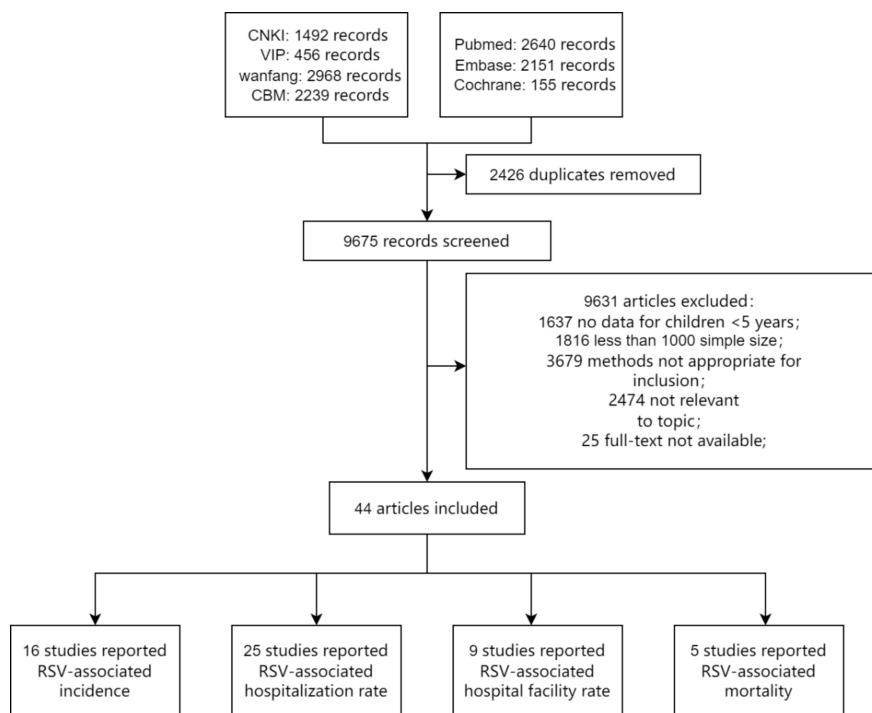
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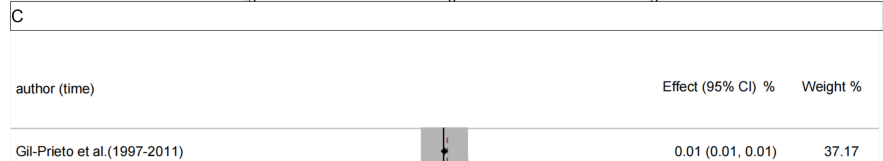
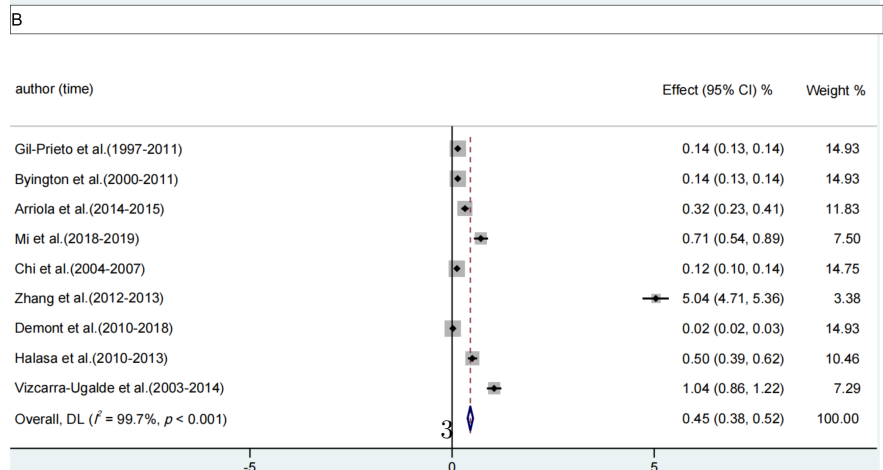
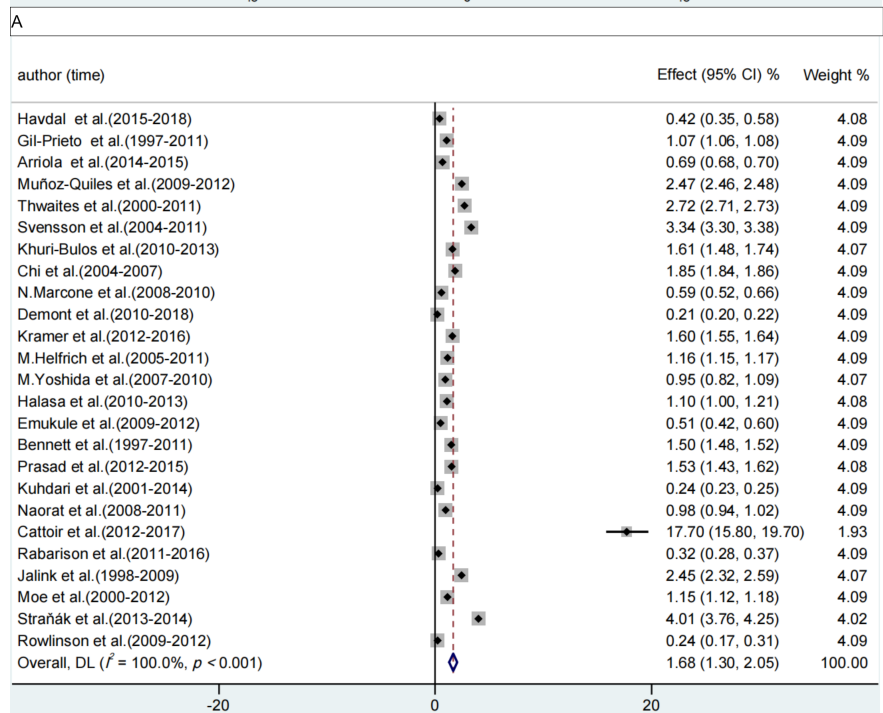
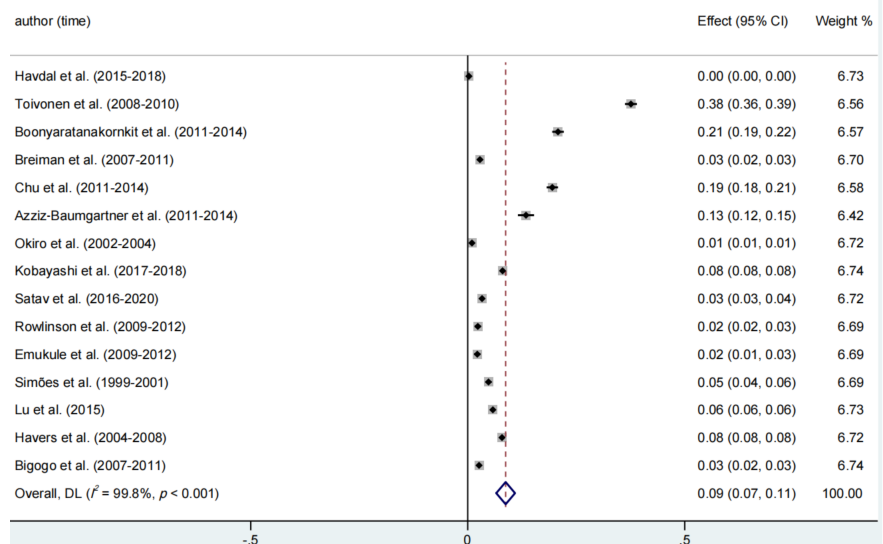
Abstract

Objectives: Respiratory syncytial virus (RSV) is a leading cause of lower respiratory tract infection in young children. We aimed to analyze the factors affecting the estimation of RSV-related disease burden, and furthermore, to provide evidence to help establish a surveillance system. **Methods:** We searched for literature published in English or Chinese between 1 January, 2010 and 2 June, 2022. The quality of the included articles was assessed using the Agency for Healthcare Research and Quality scale. Random-effects models were used for data synthesis and subgroup analyses. This review was registered in the Prospective Register of Systematic Reviews (PROSPERO: CRD42022372972). **Results:** We included 44 studies (149,321,171 participants), all of which were of medium or high quality. The pooled RSV-associated disease incidence, hospitalization rate, in-hospital mortality, and overall mortality rates in children aged 5 years and younger were 9.0% (95% confidence interval [CI]: 7.0–11.0%), 1.68% (95% CI: 1.30–2.05%), 0.45% (95% CI: 0.38–0.52%), and 0.05% (95% CI: 0.04–0.06%), respectively. Age, economics, surveillance types, case definition, and data source were all influencing factors. **Conclusions:** A standardized and unified RSV surveillance system is required. Case definition and surveillance types should be fully considered for surveillance of different age groups.

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