

Q7

Title: Efficacy of the influenza vaccine in hospitalized children: Systematic Review and Meta-Analysis

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"Background

Each year, influenza results in substantial disease burden in persons of all ages, with highest attack rates in school aged children. Annual influenza vaccination was recommended for all children aged 6 months to 18 years by 2008 (ref) although vaccination for persons at higher risk has been in place since 1960s. Despite this, little data is available about the efficacy of the influenza vaccine in preventing hospitalization in children.

Methods

We conducted a pubmed search for published studies meeting inclusion criteria and included studies of virologically confirmed influenza infections in hospitalized children. Unlike adult studies, we could not find randomized controlled trials to assess vaccine efficacy. We restricted our studies to publications in English and where English translation was available. Where possible, pooled estimates of effect using random-effects meta-analysis models was performed.

Results

Of the initial 106 studies identified on pubmed, 12 studies were eligible for inclusion. These included 4 case control studies, 3 prospective studies, 3 surveillance studies and 4 hospital based studies. Meta-analysis indicated a pooled vaccine efficiency ratio of 73.2%.

Conclusions

Influenza vaccine can provide protection against virologically confirmed influenza and reduces the rate of hospitalization. Further studies including randomized control trials in children will be helpful to determine vaccine efficacy to reduce morbidity and mortality."