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Vaccines for preventing influenza in the elderly.

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Abstract

BACKGROUND:

Vaccines have been the main global weapon to minimise the impact of influenza in the elderly for the last four decades and are recommended worldwide for individuals aged 65 years or older. The primary goal of influenza vaccination in the elderly is to reduce the risk of complications among persons who are most vulnerable.

OBJECTIVES:

To assess the effectiveness of vaccines in preventing influenza, influenza-like illness (ILI), hospital admissions, complications and mortality in the elderly. To identify and appraise comparative studies evaluating the effects of influenza vaccines in the elderly. To document types and frequency of adverse effects associated with influenza vaccines in the elderly.

SEARCH STRATEGY:

We searched the Cochrane Central Register of Controlled Trials (CENTRAL), which contains the Cochrane Acute Respiratory Infections (ARI) Group's Specialised Register (The Cochrane Library 2009, issue 4); MEDLINE (January 1966 to October Week 1 2009); EMBASE (1974 to October 2009) and Web of Science (1974 to October 2009).

SELECTION CRITERIA:

Randomised controlled trials (RCTs), quasi-RCTs, cohort and case-control studies assessing efficacy against influenza (laboratory-confirmed cases) or effectiveness against influenza-like illness (ILI) or safety. Any influenza vaccine given independently, in any dose, preparation or time schedule, compared with placebo or with no intervention was considered.

DATA COLLECTION AND ANALYSIS:

We grouped reports first according to the setting of the study (community or long-term care

facilities) and then by level of viral circulation and vaccine matching. We further stratified by co-administration of pneumococcal polysaccharide vaccine (PPV) and by different types of influenza vaccines. We analysed the following outcomes: influenza, influenza-like illness, hospital admissions, complications and deaths.

MAIN RESULTS:

We included 75 studies. Overall we identified 100 data sets. We identified one RCT assessing efficacy and effectiveness. Although this seemed to show an effect against influenza symptoms it was underpowered to detect any effect on complications (1348 participants). The remainder of our evidence base included non-RCTs. Due to the general low quality of non-RCTs and the likely presence of biases, which make interpretation of these data difficult and any firm conclusions potentially misleading, we were unable to reach clear conclusions about the effects of the vaccines in the elderly.

AUTHORS' CONCLUSIONS:

The available evidence is of poor quality and provides no guidance regarding the safety, efficacy or effectiveness of influenza vaccines for people aged 65 years or older. To resolve the uncertainty, an adequately powered publicly-funded randomised, placebo-controlled trial run over several seasons should be undertaken.

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