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[Intervention Review]

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 methods

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.

PLAIN LANGUAGE SUMMARY

Vaccines for preventing seasonal influenza and its complications in people aged 65 or older

Influenza vaccination of elderly individuals is recommended worldwide as people aged 65 and older are at a higher risk of complications, hospitalisations and deaths from influenza. This review looked at evidence from experimental and non-experimental studies carried out over 40 years of influenza vaccination. We included 75 studies. These were grouped first according to study design and then the setting (community or long-term care facilities). The results are mostly based on non-experimental (observational) studies, which are at greater risk of bias, as not many good quality trials were available. Trivalent inactivated vaccines are the most commonly used influenza vaccines. Due to the poor quality of the available evidence, any conclusions regarding the effects of influenza vaccines for people aged 65 years or older cannot be drawn. The public health safety profile of the vaccines appears to be acceptable.