SAFETY AND EFFECTIVENESS OF INFLUENZA VACCINES IN PEOPLE WITH ASTHMA: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Introduction and objectives Influenza vaccination is offered annually in the UK to high-risk individuals such as those with asthma as a preventive measure against influenza infection and influenza-related complications. However, the effectiveness and safety of influenza vaccination in people with asthma is not well established.1

Methods We conducted a systematic review and meta-analysis assessing the overall quality of evidence using the GRADE methodology. Published literature was searched through 13 electronic databases from Jan 1970 to Jan 2016 for clinical trials and epidemiological studies. Unpublished or ongoing literature was searched through references and citations of key publications, and by contacting influenza vaccine manufacturers. The screening for eligible studies, data extraction and quality appraisal was conducted by two reviewers independently. Separate meta-analyses were undertaken for observational and experimental evidence using random-effects models.

Results We identified 35 eligible studies, and four contributed to the meta-analyses. Risk of bias was high for one randomised controlled trial (RCT), unclear for 11 RCTs, and low for eight RCTs. The quality of five non-RCTs, four cohorts, and two case-control studies was strong. Moderate quality was found for one non-RCT, and three cohort studies. In people with asthma, pooled vaccine effectiveness (VE) was 45% (OR: 0.55; 95% CI: 0.44 to 0.69; I² = 0%) for laboratory confirmed influenza. Pooled effectiveness of live vaccines was 81% (RR: 0.19; 95% CI: 0.06 to 0.67; I² = 0%) for influenza infection (confirmed by cell culture or rise in antibody titre) and 72% (RR: 0.28; 95%: 0.10 to 0.80; I² = 0%) for influenza-like illness. VE was also observed against asthma attacks. No increased risk of vaccine-induced asthma symptoms and attacks was identified. The quality of the body of evidence was considered very low for all outcomes.

Conclusions Evidence on VE in people with asthma against influenza, asthma exacerbations, and other clinical outcomes is limited and of very low quality. Thus, better quality evidence is required, especially in adults with asthma. Vaccination with inactivated or live vaccines was found to be safe and well tolerated in patients with asthma.

Disease Progression and Burden in Obstructive Lung Disease

TREATMENT OF LUNG DISEASE IN ALPHA-1 ANTITRYPSIN DEFICIENCY: A SYSTEMATIC REVIEW

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Introduction Alpha-1 Antitrypsin Deficiency (AATD) is a rare genetic condition predisposing individuals to COPD. The