

# Accepted Manuscript

Interventions for autumn exacerbations of asthma in children

Katharine C Pike, Melika Akhbari, Dylan Kneale, Katherine M Harris

PII: S1526-0542(18)30049-6  
DOI: <https://doi.org/10.1016/j.prrv.2018.03.004>  
Reference: YPRRV 1250

To appear in: *Paediatric Respiratory Reviews*



Please cite this article as: K.C. Pike, M. Akhbari, D. Kneale, K.M. Harris, Interventions for autumn exacerbations of asthma in children, *Paediatric Respiratory Reviews* (2018), doi: <https://doi.org/10.1016/j.prrv.2018.03.004>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

## **Cochrane Corner**

### **Interventions for autumn exacerbations of asthma in children**

Katharine C Pike<sup>1</sup>, Melika Akhbari<sup>2</sup>, Dylan Kneale<sup>3</sup>, Katherine M Harris<sup>4</sup>

<sup>1</sup>Respiratory, Critical Care & Anaesthesia, UCL Great Ormond Street Institute of Child Health, London, UK

<sup>2</sup>GKT School of Medical Education, King's College London, London, UK

<sup>3</sup>EPPI-Centre, Social Science Research Unit, UCL Institute of Education, University College London, London, UK

<sup>4</sup>Centre for Child Health, Blizard Institute, Queen Mary University of London, London, UK

#### **Why was it important to do this Cochrane review? (1)**

Asthma exacerbations in school-aged children peak in autumn (2). The peak follows shortly after the summer school holiday; occurring in September in the Northern Hemisphere (3) and February in the Southern Hemisphere (4). This likely reflects a combination of risk factors, including poor treatment adherence, increased allergen and viral exposure, and altered immune tolerance (5). Asthma admissions during the month when children return to school account for approaching a quarter of the annual total (6). Interventions targeting modifiable risk factors might reduce exacerbation-associated morbidity and strain upon health resources during the autumn.

There are practical difficulties associated with minimising viral or allergen exposure, but two main strategies remain which might reduce autumn asthma exacerbations. The first would be add on, or increased, asthma pharmacotherapy before autumn and the second improved treatment adherence and symptom control during and in anticipation of this period.

Current national and international guidelines offer no guidance on avoiding autumn asthma exacerbations. However, a recent trial of seasonal omalizumab treatment reported reduced exacerbations amongst children with severe or poorly controlled asthma (7). This treatment is costly, requires fortnightly or monthly subcutaneous injections, and in countries such as the United Kingdom is subject to strict severity-based prescribing criteria. It is important to identify whether cheaper, less invasive strategies exist which might be more widely generalisable.

#### **What were the objectives of this review?**

This review aimed to assess the effects of pharmacotherapy and behavioural interventions enacted in anticipation of school return in the autumn and designed to reduce asthma exacerbations in children during this period. The primary outcome was exacerbation, defined as need for oral corticosteroids or hospitalisation. Adverse events were considered as a secondary outcome.

#### **What was the evidence base for this review?**

Relevant trials were identified from the Cochrane Airways Group's Trials Register. We found five studies which randomised school-aged children with asthma to either an intervention designed to reduce autumn asthma exacerbations or to standard asthma care. A total of 14,252 children were randomised, the majority to a single trial cluster randomised at general practice level (8). The remaining trials recruited 200-1200 children each, according to variable severity, atopic status or age criteria.

There were four randomised controlled trials of pharmacological interventions. This included the PROSE trial, in which participants sensitised to one or more perennial allergens were randomised to receive either omalizumab, doubling of their inhaled corticosteroid dose or placebo from 4-6 weeks before school return (7). Additionally, there were two blinded (9, 10) and one open (11) study of leukotriene receptor antagonist (LTRA) administration from school return.

Download English Version:

<https://daneshyari.com/en/article/8952767>

Download Persian Version:

<https://daneshyari.com/article/8952767>

[Daneshyari.com](https://daneshyari.com)