Preventing asthma deaths: specialist involvement in asthma care during or after an asthma attack

Cochrane Airways Scoping Search Report

Liz Stovold
Introduction to the scoping search report
This scoping search report describes the methods and results of scoping activities undertaken by Cochrane Airways on preventing asthma deaths: specialist involvement in asthma care during or after an asthma attack. Interventions to prevent asthma deaths was identified as priority by the Cochrane Airways Priority Setting Group (CAPSG) as part of the Cochrane Airways ‘whole of scope’ priority setting exercise conducted in 2019/2020.

This scoping search report does not attempt to appraise or synthesise the included studies. It provides a summary of the existing evidence on this topic.

Purpose
The purpose of this scoping search report is:

- to assess what evidence exists for this topic
- to inform the development of future Cochrane Review titles
- to provide a transparent record of scoping work undertaken by Cochrane Airways

Study inclusion criteria
Population: people with asthma and a current or previous exacerbation

Intervention: specialist care

Comparator: any

Outcomes: mortality, unscheduled healthcare use

Study design: systematic reviews, randomised controlled trials (RCTs), quasi-RCTs

Literature search
A limited literature search was conducted to identify relevant systematic reviews and trials. A search was conducted in the Cochrane Airways Trials Register to identify relevant RCTs and quasi-RCTs. A search of the Epistemonikos database was conducted to identify relevant systematic reviews published in the last 10 years. The search strategies can be found in the appendix. Searches were conducted on 3rd June 2020.

Assessment of search results
The search of the Cochrane Airways Trials Register retrieved 59 references and the search of Epistemonikos retrieved 11 references. One member of the Cochrane Airways team (LS) screened the titles and abstracts using the Cochrane Register of Studies triage function, and checked full-text if necessary.

Included studies
The search identified 6 RCTs. The search did not find any systematic reviews on the topic of specialist asthma care. The RCTs are summarised in Table 1. The primary reference for each review and study is listed in the References section.
<table>
<thead>
<tr>
<th>Study ID</th>
<th>Population</th>
<th>Intervention(s)</th>
<th>Comparator</th>
<th>No. participants randomized</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Castro 2003</td>
<td>Adults hospitalized with an asthma exacerbation</td>
<td>asthma nurse specialist intervention</td>
<td>Usual care</td>
<td>96</td>
<td>USA</td>
</tr>
<tr>
<td>Griffiths 2004</td>
<td>Adults &amp; children (4-60 years) admitted to hospital with acute asthma</td>
<td>asthma specialist nurses, using a liaison model of care</td>
<td>visit promoting standard asthma guidelines; inhaler technique checked</td>
<td>324</td>
<td>UK</td>
</tr>
<tr>
<td>Levy 2000</td>
<td>Adults who had attended hospital for asthma twice in 12 months</td>
<td>three 6-weekly outpatient appointments with specialist asthma nurse</td>
<td>Usual care</td>
<td>211</td>
<td>UK</td>
</tr>
<tr>
<td>Nathan 2006</td>
<td>Adults (&gt;16 years) admitted to hospital for acute asthma</td>
<td>follow-up clinic appointment within 2 weeks of hospital discharge with specialist nurse</td>
<td>follow-up clinic appointment within 2 weeks of hospital discharge with respiratory doctor</td>
<td>154</td>
<td>UK</td>
</tr>
<tr>
<td>Xu 2010</td>
<td>Children with acute presentation of asthma in last 12 months</td>
<td>1. asthma education and management support from a Specialist Nurse by telephone or e-mail 2. asthma education and management support from a Specialist Nurse by interactive voice response system</td>
<td>Usual care</td>
<td>121</td>
<td>Australia</td>
</tr>
<tr>
<td>Zeiger 1991</td>
<td>Adults and children (6-59 years) presenting to ER with acute asthma</td>
<td>facilitated referral to an asthma specialist and concomitant comprehensive ongoing asthma care</td>
<td>continued outpatient management from generalist physicians</td>
<td>309</td>
<td>USA</td>
</tr>
</tbody>
</table>
References

Randomized controlled trials

Castro M, Zimmermann NA, Crocker S, Bradley J, Leven C, Schechtman KB. Asthma intervention program prevents readmissions in high healthcare users *American journal of respiratory and critical care medicine* 2003; 168 (9); 1095-1099

Griffiths C, Foster G, Barnes N, Eldridge S, Tate H, Begum S, Wiggins M, Dawson C, Livingstone AE, Chambers M, Coats T, Harris R, Feder GS. Specialist nurse intervention to reduce unscheduled asthma care in a deprived multiethnic area: the east London randomised controlled trial for high risk asthma (ELECTRA) *BMJ (Clinical research ed.)* 2004; 328 (7432); 144

Levy ML, Robb M, Allen J, Doherty C, Bland JM, Winter RJ. A randomized controlled evaluation of specialist nurse education following accident and emergency attendance for acute asthma *Respiratory medicine* 2000; 94 (9); 900-908

Nathan JA, Pearce L, Field C, Dotesio-Eyres N, Sharples LD, Cafferty F, Laroche CM. A randomized controlled trial of follow-up of patients discharged from the hospital following acute asthma: best performed by specialist nurse or doctor? *Chest* 2006; 130 (1); 51-57

Xu C, Jackson M, Scuffham PA, Wootton R, Simpson P, Whitty J, Wolfe R, Wainwright CE. A randomized controlled trial of an interactive voice response telephone system and specialist nurse support for childhood asthma management *Journal of asthma* 2010; 47 (7); 768-773

Appendix: Database search strategies
Cochrane Airways Register of Trials via The Cochrane Register of Studies

1. AST:MISC1 AND INSEGMEN 23509
2. MeSH DESCRIPTOR Asthma Explode All AND INSEGMEN 21506
3. asthma*:ti,ab AND INSEGMEN 61303
4. #1 or #2 or #3 AND INSEGMEN 65766
5. MESH DESCRIPTOR Symptom Flare Up EXPLODE ALL AND INSEGMEN 62
6. (acute* or exacerbat* or attack or severe or status asthmaticus or crisis or critical* or emergenc* or hospital*):ti,ab AND INSEGMEN 90508
7. MESH DESCRIPTOR Status Asthmaticus AND INSEGMEN 152
8. #5 OR #6 OR #7 AND INREGISTER 15223
9. #4 AND #8 AND INREGISTER 6846
10. specialist*:ti,ab AND INSEGMEN 2757
11. MESH DESCRIPTOR Specialization AND INSEGMEN 55
12. #10 OR #11 AND INREGISTER 233
13. #4 AND #8 AND #12 AND INREGISTER 59
14. INREGISTER 43508
15. #13 AND #14 AND INREGISTER 59

Epistemonikos

asthma AND specialist