

May 2020

Preventing asthma deaths: Interventions aimed at adolescents with asthma

Cochrane Airways Scoping Search Report

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Introduction to the scoping search report

This scoping search report describes the methods and results of scoping activities undertaken by Cochrane Airways on interventions aimed at adolescents with asthma. 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. Transition of care for adolescents with asthma from paediatric to adults services was identified as a factor in asthma-associated deaths by the 2014 National Review of Asthma Deaths.

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: adolescents with asthma

Intervention: any behavioural, educational, self-management, psychological or system/organisational intervention specifically aimed at adolescents with asthma

Comparator: any

Outcomes: any

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 limited to the last 10 years 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 5 years. The search strategies can be found in the [appendix](#). Searches were conducted on 12th May 2020.

Assessment of search results

The search of the Cochrane Airways Trials Register retrieved 389 references and the search of Epistemonikos retrieved 27 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 8 related systematic reviews and **# RCTs (# references)**. The reviews and studies are summarised in **Table 1** and **Table 2**. The primary reference for each review and study is listed in the [References](#) section.

Table 1: Summary of reviews

Study ID	Review type	Included study types	Population	Intervention/theme	Outcome(s)	No. included studies
Ahmad 2016	Systematic literature review	All study types	Adolescents with asthma	Enabling and hindering factors for adherence to asthma treatment	Behaviour; belief; self-management; health literacy; role of health provider; assessment of adherence; role of caregiver; role of peers; national asthma guidelines	42
Alquran 2018	Systematic review	All study types	Adolescents with asthma	Smartphone applications for self-management	Asthma control; medication adherence; self-efficacy	8
Harris 2019	Cochrane Review (mixed methods)	RCTs; process evaluations	Adolescents & children with asthma	School-based self-management	admission to hospital; emergency department (ED) visits; absence from school; and days of restricted activity due to asthma symptoms	55
Holley 2017	Systematic Review (mixed methods)	Quantitative & qualitative	Adolescents with asthma	Barriers and facilitators to self-management of asthma	Knowledge; Lifestyle; Beliefs and Attitudes; Relationships; Intrapersonal Characteristics; and Communication	16
Jung 2018	Systematic review	RCTs	Adolescents & children with asthma	Telemonitoring	Asthma control; exacerbations; medication adherence; intervention adherence	8

Kew 2017	Cochrane Review	RCTs	Adolescents with asthma	Lay-led and peer support	Asthma-related quality of life; exacerbations	5
Mosnaim 2015	Systematic review	All intervention studies	Adolescents with asthma	Behavioural interventions	Adherence to medication; asthma knowledge & self-management skills	21
Zhong 2017	Systematic review	RCTs	Adolescents with asthma	Peer-led self-management education	Health status; behaviour	4

Table 2: Summary of studies

Study ID	Trial Registration	Population	Intervention(s)	Comparator	No. participants randomized	Country

References

Systematic Reviews

Ahmad A, Sorensen K. Enabling and hindering factors influencing adherence to asthma treatment among adolescents: a systematic literature review *Journal of asthma* **2016**: 53 (8) ; 862-878

Alquran A, Lambert KA, Farouque A, Holland A, Davies J, Lampugnani ER, Erbas B. Smartphone applications for encouraging asthma self-management in adolescents: a systematic review *International journal of environmental research and public health* **2018**: 15 (11)

Harris KM, Kneale D, Lasserson TJ, McDonald VM, Grigg J, Thomas J. School-based self-management interventions for asthma in children and adolescents: a mixed methods systematic review *Cochrane database of systematic reviews (Online)* **2019**: 1 ; CD011651

Holley S, Morris R, Knibb R, Latter S, Lioffi C, Mitchell F, Roberts G. Barriers and facilitators to asthma self-management in adolescents: a systematic review of qualitative and quantitative studies *Pediatric pulmonology* **2017**: 52 (4) ; 430-442

Jung Y, Kim J, Park DA. Effectiveness of Telemonitoring Intervention in Children and Adolescents with Asthma: a Systematic Review and Meta-Analysis *Journal of Korean Academy of Nursing* **2018**: 48 (4) ; 389-406

Kew KM, Carr R, Crossingham I. Lay-led and peer support interventions for adolescents with asthma *Cochrane database of systematic reviews*. 4:CD012331, 2017 apr 19 **2017**: (4) ; CD012331

Mosnaim GS, Pappalardo AA, Resnick SE, Codispoti CD, Bandi S, Nackers L, Malik RN, Vijayaraghavan V, Lynch EB, Powell LH. Behavioral Interventions to Improve Asthma Outcomes for Adolescents: a Systematic Review *Journal of allergy and clinical immunology* **2015**: 4 (1) ; 130-141

Zhong CS, Melendez-Torres GJ. The effect of peer-led self-management education programmes for adolescents with asthma: a systematic review and meta-analysis *Health education journal* **2017**: 76 (6) ; 676-694

Randomized controlled trials

Appendix: Database search strategies

Cochrane Airways Register of Trials via The Cochrane Register of Studies

- #1 AST:MISC1 AND INREGISTER
- #2 MeSH DESCRIPTOR Asthma Explode All AND INREGISTER
- #3 asthma*:ti,ab AND INREGISTER
- #4 #1 or #2 or #3 AND INREGISTER
- #5 (adolescen* or teen* or "young adult" or youth):ti,ab AND INREGISTER
- #6 #4 AND #5 AND INREGISTER
- #7 (2010 or 2011 or 2012 or 2013 or 2014 or 2015 or 2016 or 2017 or 2018 or 2019 or 2020):yr
AND INREGISTER
- #8 #6 AND #7

Epistemonikos

Keyword search: Asthma adolescents