





# Risk factors for asthma death and life-threatening attacks in children – a systematic review

Gawlik-Lipinski A<sup>1</sup>, Nalir Hassen S<sup>1</sup>, Ramphul M<sup>2</sup>, Quint JK<sup>3</sup>, Gillies C<sup>1</sup>, Lo DKH<sup>1</sup>

<sup>1</sup>University of Leicester, <sup>2</sup>University Hospitals of Leicester NHS Trust, <sup>3</sup>Imperial College London

#### Aim



To review existing evidence to identify risk factors for life-threatening asthma attacks and asthma deaths in children and young people (CYP)

#### **Methods**

- The review followed PRISMA reporting guidelines and was registered on PROSPERO (CRD42023494203).
- The review included:
  - > observational studies published in English
  - > data collected from 2000 onwards
  - > concerning patients aged 0-18 with diagnosis of asthma
  - exploring variables influencing asthma mortality and life-threatening asthma attacks in children (defined as Intensive Care Unit admissions)
- The search was conducted across CINAHL, MEDLINE, Central Cochrane Library, and Scopus.
- Reference lists of eligible studies were screened.
- MEDLINE search strategy was adapted in the database search, with Medical Subject Headings terms and free text terms corresponding to the population: "asthma\* and "child\*", exposure of "risk\*", and outcomes of "mortality" and "lifethreatening".

### Identification of studies via databases and registers Records identified from MEDLINE (n = 3140.) Cochrane (n = 973) Scopus (n= 5861) CINAHL (n= 973) Total (n=10 072) Records removed before (n = 4198)Records screened (n = 5874\_) Records excluded\*\* (n =5687\_) Reports sought for retrieval Reports not retrieved (n = 187)Reports assessed for eligibility Not observational study (n=6) Wrong outcome (n =43.) Wrong population (n =58.) Not reporting risk factors (n = 38) Data <2000 (n=25) Not in English (n=3) Conference proceeding, grey literature, review (n= 3) Case series (n= 4) Studies included in review (n = 6)

## **Results (preliminary)**

retrieval



10072 identified5874 titles and abstracts screened186 studies sought for full-text

6 studies met the inclusion criteria

2 of studies were conducted in the **USA**, and the remaining 5 respectively in **Canada**, the **UK**, **Korea**, and the **Netherlands** 

5 studies are **retrospective cohort** studies, and 1 is a **retrospective case-control** study.



Further analysis being conducted.



All identified studies have been from high-income countries only

**Conclusions** 



The small number of studies indicates a lack of research on the topic



Further research in the form of epidemiological studies is recommended