Atopic dermatitis prevalence and incidence, 1992-2024: a systematic review and meta-analysis

GLOBAL ATOPIC DERMATITIS ATLAS

Mapping epidemiological data on atopic dermatitis worldwide

These preliminary results reinforce the high burden of atopic dermatitis and its importance in global health. These estimates are vital for tracking progress since the World Health Assembly Resolution and serve as an open-access resource for researchers worldwide.

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www.atopicdermatitisatlas.org

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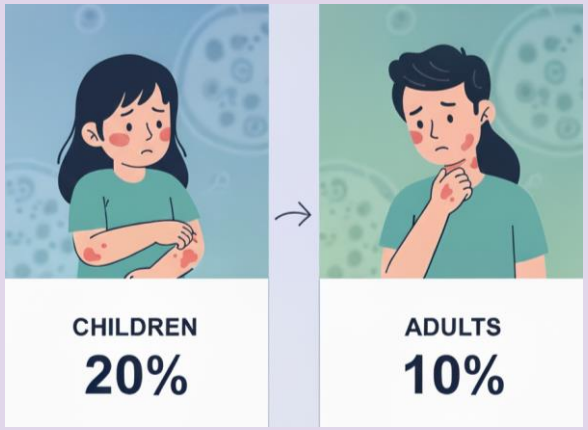
GLOBALSKIN.ORG International Alliance of Dermatology Patient Organizations

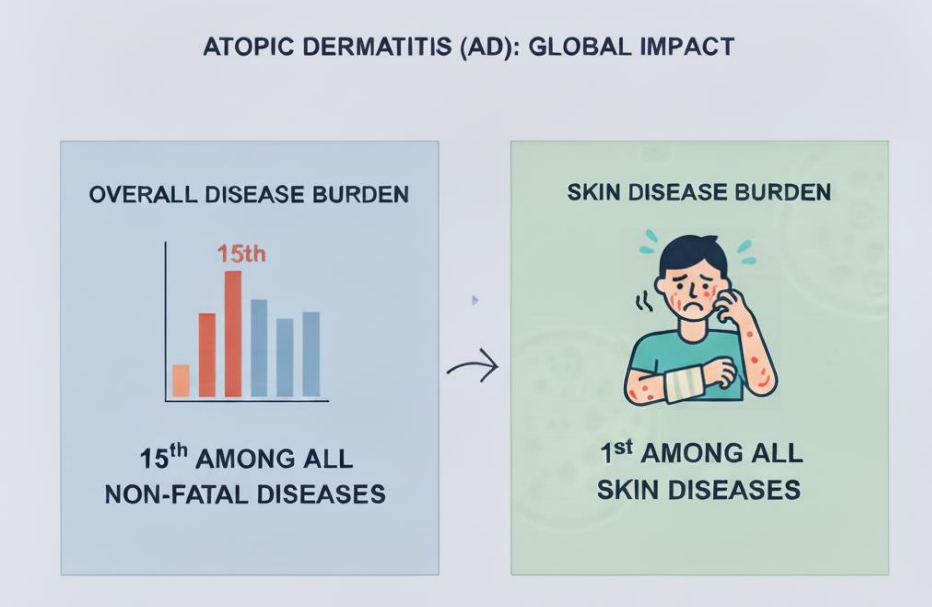
ILDS International League of Dermatological Societies Skin Health for the World

Background and Rationale



- **Atopic dermatitis (AD)** affects around 20% of children and up to 10% of adults. It is ranked 15th among non-fatal diseases and 1st among all skin diseases globally as measured by Disability Adjusted Life Years (DALYs) based on the 2017 Global Burden of Disease data. **AD is an important public health problem worldwide.**

- **Population-based epidemiological studies** enhance our understanding of disease distribution over time and across geographic regions, as well as identify factors.



Previous Research

- A systematic search across three electronic databases (MEDLINE, Embase, and Web of Science) for the baseline review, covering the period from **January 2023 to February 2024**.

JOURNAL ARTICLE ACCEPTED MANUSCRIPT

Atopic dermatitis epidemiological research methodology: a global scoping review

Chih-Ya Chang , Kaitlyn Chan , Hsuan-Chi Chen , Chien-Cheng Lai , Karen Poole , Piers Allen , Ching-Chi Chi , David Prieto-Merino , Christian Vestergaard , Yik Weng Yew , Carsten Flohr , Suzanne H Keddie ✉
Author Notes

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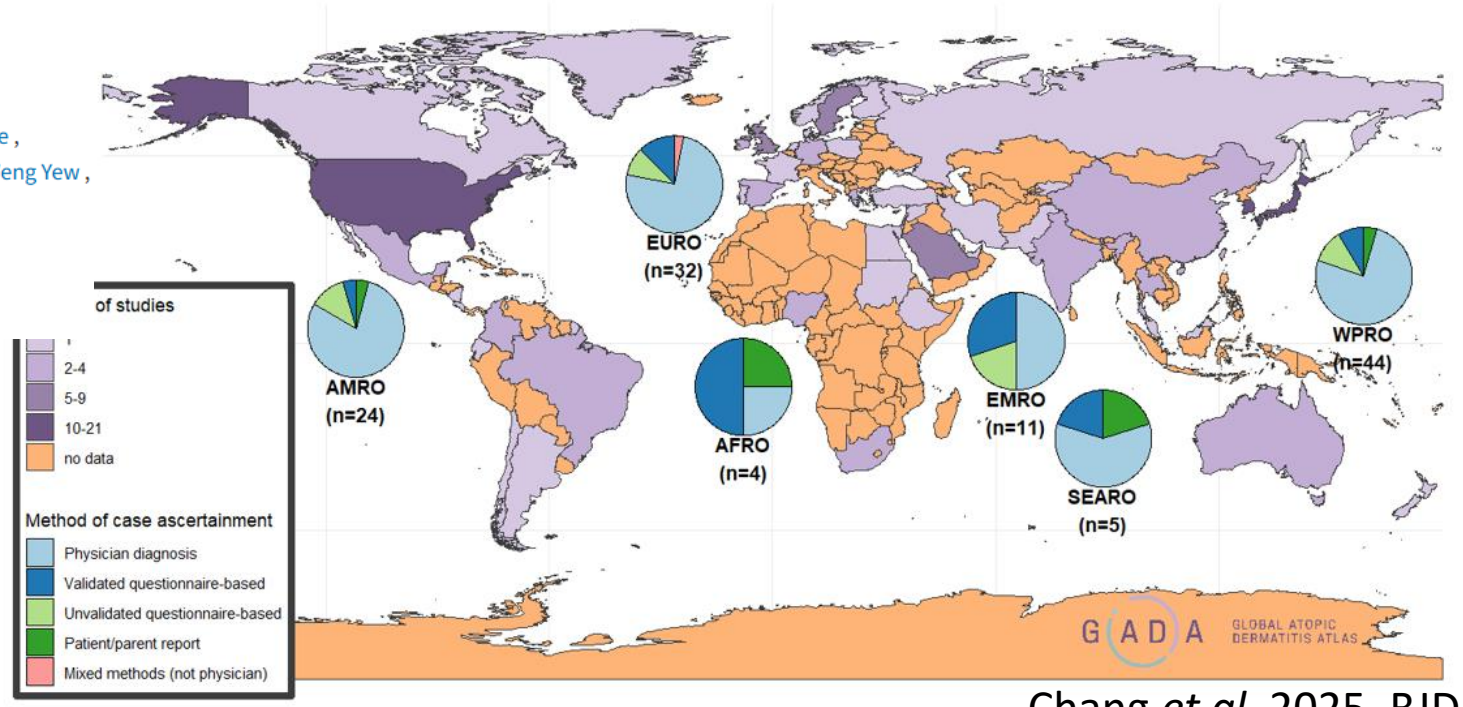
- 18-month review
- Geographical distribution
- Large heterogeneity in case ascertainment
- Few studies include disease severity
- Many geographical gaps



Chang *et al.* 2025, BJD

Objective: To serve as a central, freely accessible source of high-quality global data on the prevalence, incidence, and severity of atopic dermatitis.

Methods

Search strategy

- Consolidate epidemiological evidence on atopic dermatitis
- Timeframe: 1992 – 2024 (+ annually updated).
- Search terms: ‘atopic dermatitis,’ ‘eczema,’ ‘prevalence,’ and ‘incidence’ and there were no language restrictions.

Selection criteria

- Studies report the prevalence and/or incidence of atopic dermatitis in a general population
- Population studied is representative of a country or area
- A clear definition of a case of atopic dermatitis (including questionnaire-defined, self-reported, or a physician/dermatologist diagnosis)
- NOT RCTs, conference abstracts, meta-analysis, editorials, protocols or guidelines

Data analysis

- A Bayesian hierarchical linear mixed model will be used to calculate global, regional, and national prevalence and incidence rates.
- This model allows information between study units to be shared and estimates to be generated even when no data is available.

Protocol : https://www.crd.york.ac.uk/PROSPERO/view/CRD42024542384

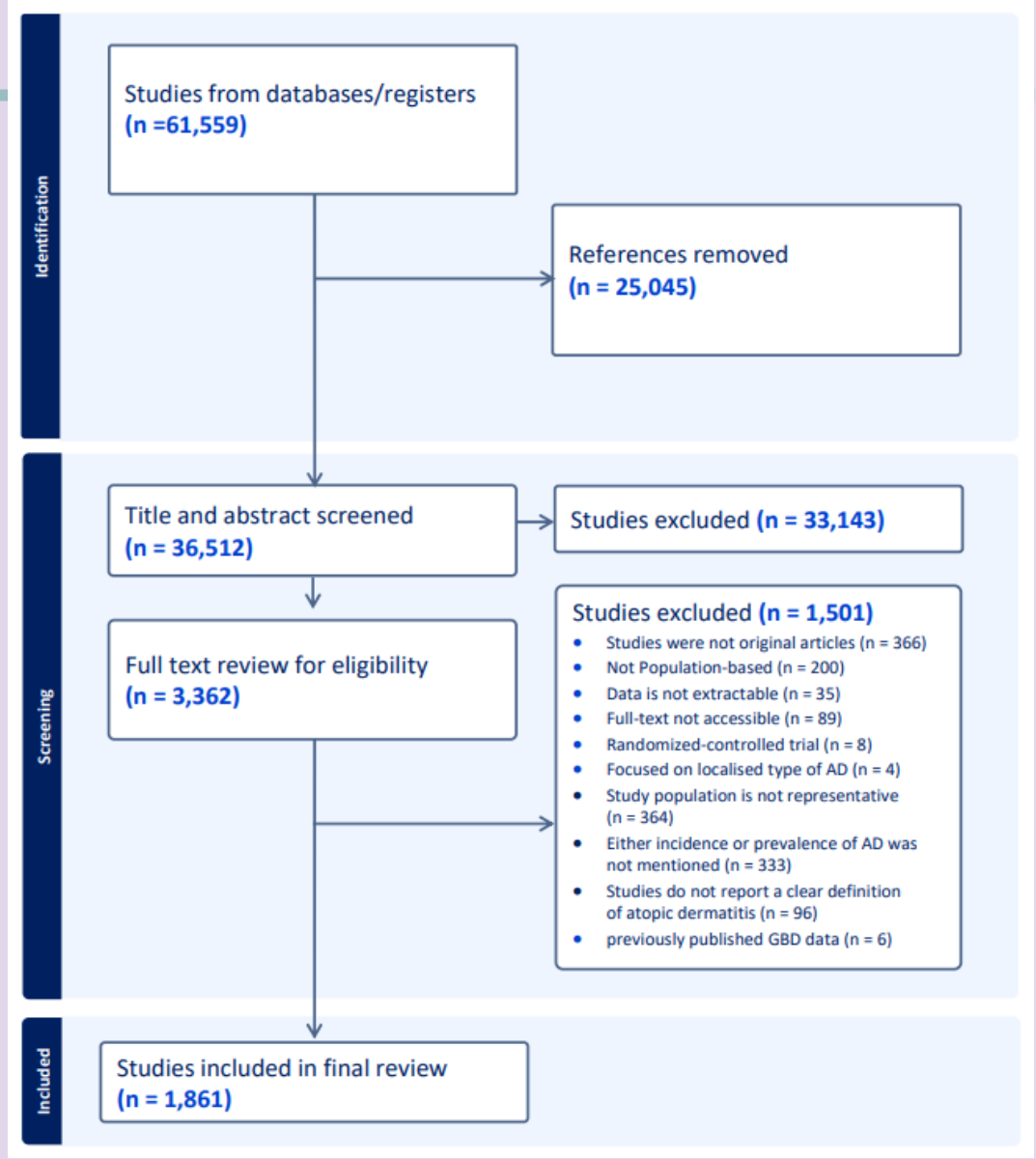
Results

Retrospective review 1992-2024

- Titles and abstracts screened – 36,512
- Full-texts screened - 3,362
- Data extraction on-going – 1,861

Team effort incorporating colleagues from Singapore, Australia, Taiwan, Denmark and UK

The following results reflect only 30% of included studies



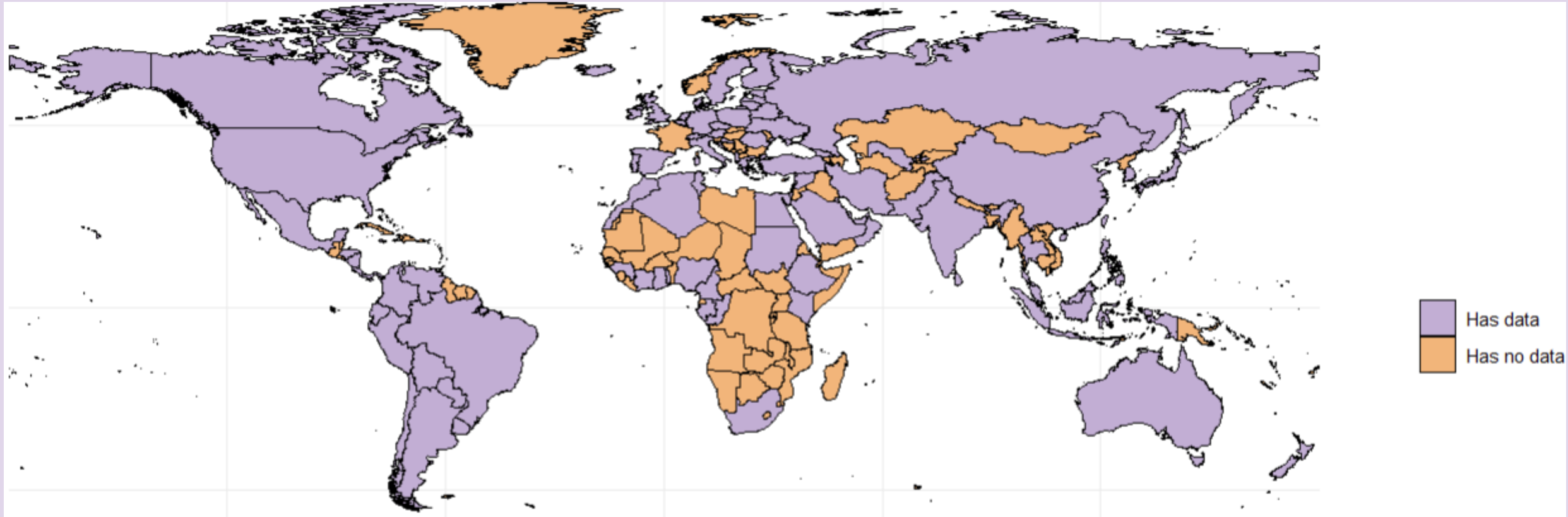
GLOBAL ATOPIC DERMATITIS ATLAS

Preliminary Results

Data from:

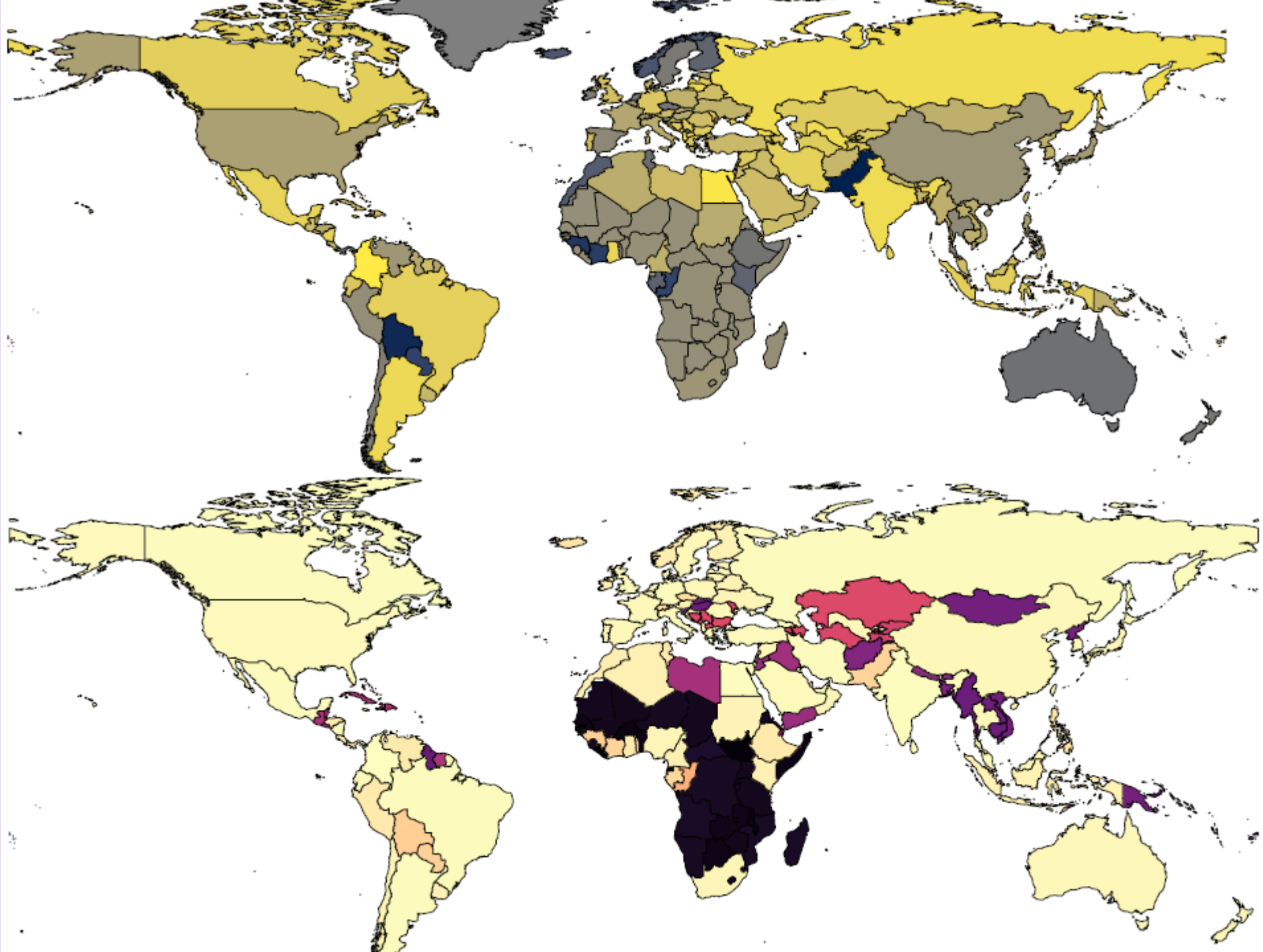
- 358 studies (2316 observations)
- 96 different countries
- Spanning late 1990s up to 2021

- Majority children < 18 years (57% of observations)
- Predominantly 1-year period prevalence (38% of observations).



Preliminary Results

1-year period prevalence in children by country



Conclusions

- Comparison
  - Our estimates align closely with other large reviews (Tian *et al.* 2023, Laughter *et al.* 2021).
  - Key distinction is our rigorous and reproducible methodology, with openly accessible data – making this the most comprehensive resource on AD prevalence and incidence available to date.

- Next steps
  - Complete data extraction.
  - Estimate prevalence and incidence nationally, regionally and globally by age group and across years.
  - Look at incorporating additional explanatory variables e.g. pollution and GNI as well as urban or rural locations and further model refinements

Thank you

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