

INPLASY PROTOCOL

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Global, regional, and national prevalence and risk factors for childhood asthma: A systematic review and meta-analysis

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None declared.

Review question / Objective: To estimate the prevalence and risk factors of childhood asthma.

Condition being studied: A prior study included numerous participants from the same population, including both children and adults. Therefore, we performed a systematic review and meta-analysis to determine the prevalence and risk factors of childhood asthma.

Eligibility criteria: Studies were included if they met the following criteria: (1) Population: age of individuals less than 18.0 years; (2) Definition: clear definition of asthma; (3) Outcome: prevalence of asthma or risk factors for asthma more than 3 times; and (4) Study design: cross-sectional studies.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 31 May 2023 and was last updated on 31 May 2023 (registration number INPLASY202350116).

INTRODUCTION

Review question / Objective: To estimate the prevalence and risk factors of childhood asthma.

Rationale: Numerous new epidemiological data on childhood asthma have emerged,

enabling us to assess its global and regional prevalence and risk factors.

Condition being studied: A prior study included numerous participants from the same population, including both children and adults. Therefore, we performed a systematic review and meta-analysis to

determine the prevalence and risk factors of childhood asthma.

METHODS

Search strategy: (Asthma*[Title]) AND (epidemiology[Title/Abstract] OR risk[Title/Abstract]) and restricted them to Child: birth-18 years.

Participant or population: Age of individuals less than 18.0 years.

Intervention: Not applicable.

Comparator: Not applicable.

Study designs to be included: Cross-sectional studies.

Eligibility criteria: Studies were included if they met the following criteria: (1) Population: age of individuals less than 18.0 years; (2) Definition: clear definition of asthma; (3) Outcome: prevalence of asthma or risk factors for asthma more than 3 times; and (4) Study design: cross-sectional studies.

Information sources: PubMed, Embase, and Cochrane Library databases.

Main outcome(s): Prevalence of asthma or risk factors for asthma more than 3 times.

Quality assessment / Risk of bias analysis: The methodological quality of the included studies were assessed using the Newcastle-Ottawa Scale (NOS). The NOS scale contains items based on selection (4 items), comparability (1 item), and outcome (3 items), and the “staring system” ranged from to 0-9.

Strategy of data synthesis: The prevalence of childhood asthma was analyzed based on the number of children with asthma included in the individual studies, while the odds ratio (OR) with a 95% confidence interval (CI) was applied as an effect estimate for the identified risk factors for asthma. Then, the random-effects model was applied to calculate the pooled prevalence of childhood asthma and effect

estimates for risk factors because it could consider the various underlying factors across the included studies.

Subgroup analysis: Subgroup analysis was performed to determine the prevalence of childhood asthma by country

Sensitivity analysis: Sensitivity analysis was performed to determine the risk factors for childhood asthma by sequentially removing individual studies

Country(ies) involved: China.

Keywords: Prevalence; risk factors; asthma; childhood; systematic review; meta-analysis

Contributions of each author:

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