

## Family, Neighbourhood and Psychosocial Environmental Factors and Their Association with Asthma in Australia: A Systematic Review and Meta-Analysis

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**Abstract :** Background: Various associations between different environmental exposures and asthma have been reported in different countries and populations. We aimed to investigate the associations between family, neighbourhood, and psychosocial environmental factors and asthma in Australia by conducting a systematic review and meta-analysis. Methods: We analysed the primary research studies conducted in Australia across multiple databases, including PubMed, EMBASE, and Scopus, and published between 2000 and 2020. The reviews and analyses focused on the overall association of different environmental exposures with the development or exacerbation of asthma symptoms or asthma-related hospital visits. Quality-effect meta-analysis was done to estimate the pooled odds ratio for different environmental exposures for asthma symptoms. Findings: Among the 4,799 unique published articles found, 46 were included here for systematic review and 28 for meta-analysis. Our review found that psychosocial factors, including low socioeconomic condition, maternal depression, mental stress, ethnicity, and discrimination, are associated with asthma symptoms. Pooled analysis was conducted on family and neighbourhood environmental factors and revealed that environmental tobacco smoking (ETS) (OR 1.69, 95% CI 1.19–2.38), synthetic bedding (OR 1.91, 95% CI 1.48–2.47) and gas heaters (OR 1.40, 95% CI 1.12–1.76) had significant overall associations with asthma-symptoms in Australia. Conclusion: Although the studies were heterogeneous, both systematic review and meta-analysis found several psychosocial and family environmental exposures to be significantly associated with asthma symptoms. Further study to identify their causal relationship and modification may reduce asthma symptoms in the Australian population.

**Keywords :** asthma, Australia, environment, systematic review

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