

# Pulmonology and Respiratory Research

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## Family, neighbourhood and psychosocial environmental factors and their association with asthma in Australia: a systematic review and meta-analysis

K M Shahunja,<sup>1,3</sup> Professor Peter D Sly,<sup>2</sup> Tahmina Begum,<sup>1,3</sup> Tuhin Biswas,<sup>1,3</sup> Abdullah Mamun,<sup>1,3</sup>

<sup>1</sup>Institute for Social Science Research, The University of Queensland, Brisbane, Australia

<sup>2</sup>Child Health Research Centre, Faculty of Medicine, The University of Queensland, Brisbane, Australia

<sup>3</sup>ARC Centre of Excellence for Children and Families over the Life Course, The University of Queensland, Indooroopilly, Australia

**Abstract:** 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. 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. 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. 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.

### Biography

K M Shahunja is a physician and clinical researcher. He completed his MBBS degree from Sylhet MAG Osmani Medical College, Bangladesh and Post Graduate Diploma in Paediatrics and Child Health from Imperial College London, UK. Currently he is doing his PhD at The University of Queensland, Australia. Before joining to UQ, he worked for about nine years at an international research organization ([www.icddrb.org](http://www.icddrb.org)) in Dhaka, Bangladesh. His main interest of research includes child respiratory and alimentary diseases and malnutrition. So far, he has completed some clinical researches including clinical trials and published number of papers in peer-reviewed journals.