

中文題目：戶外空氣污染與成人異位性皮膚炎關係之系統性回顧與統合分析

英文題目：The relationship between outdoor air pollutants and atopic dermatitis of adults: a systematic review and meta-analysis

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Background: The prevalence of AD is increasing globally, posing a significant disease burden in adults especially in the developing countries where air pollutants play a crucial role.

We hypothesized that outdoor air pollutants adversely affects AD in adults and undertook a comprehensive systematic review.

Method: We searched English literature till August 16, 2021 in EMBASE and MEDLINE databases by using two sets of terms (outdoor air pollutants and atopic dermatitis). A total of 20 studies were finally identified.

The impact of air pollutants on the incidence, prevalence or severity of AD in adults was recorded in a standardized Excel file and analyzed in meta-analysis.

Risk of bias was evaluated by Bias in Non-Randomized Studies of Interventions (ROBINS-I).

Statistical analyses were performed using Stata version 14.0.

Results: For long-term effects, exposures to traffic-related air pollution and PM_{2.5} (per 10 ug/m³ increment) were associated with AD prevalence (OR 1.40, 95% CI [1.24, 1.58] and 1.67, 95%CI [1.26, 2.21]); PM_{2.5} and NO₂ were associated with AD incidence (ORs of 2.30, 95% CI [1.25, 4.25] and 1.30, 95% CI [1.04, 1.61]) per 10 ug/m³ increment.

For short-term effects, PM_{2.5}, PM₁₀ and SO₂ were associated with AD exacerbations at lag day 0 in the single lag model. We observed a trend toward effect attenuation with the increasing lag time. On the other hand, in the cumulative model, some of the associations regarding PM₁₀, SO₂, and O₃ were statistically significant, despite no obvious trend.

Conclusion: Our systematic review showed that the exposure of outdoor air pollutants has both short-term and long-term adverse effects on adult AD with regards to its development and symptom severity. Study heterogeneity and publication bias should be taken into account when interpreting the results. Interventional studies are needed to verify the beneficial effects of reducing exposure to these air pollutants on adult AD patients.