



ATOPIC ECZEMA/DERMATITIS

## **ASSOCIATION BETWEEN AIR POLLUTION, METEOROLOGICAL FACTORS AND OUTPATIENT VISITS FOR DERMATITIS IN CHENGDU, CHINA: A TIME-SERIES STUDY USING A DISTRIBUTED LAG NONLINEAR MODEL**

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Background: Dermatitis is one of the most common dermatoses with erythema, papules, vesicles, and scales and so on, which can be provoked by irritation, allergy photosensitivity and other factors. With the development of economy in China, air pollution is becoming more and more serious, the prevalence of dermatitis has been rising.

Objective: To investigate the association between environmental factors and the outpatient visits for dermatitis.

Methods: Data of daily outpatient visits for dermatitis diagnosed in the dermatology department of West China Hospital of Sichuan University from January 1, 2011 to December 31, 2015 were gathered. Air pollutants and daily meteorological data in Chengdu during the same period were collected. The correlation between outpatient visits for dermatitis and environmental factors was analyzed by a distributed lag nonlinear model.

Results: Daily outpatient visits for dermatitis were significantly associated with environmental factors. Similarly, multipollutant models indicated that air pollutant concentrations were significantly associated with the daily number of outpatient visits for dermatitis. Distributed lag models showed that the effect of SO<sub>2</sub>, NO<sub>2</sub> and PM<sub>10</sub> on the daily number of outpatient visits for dermatitis were mainly observed on the day of exposure. Relative humidity had protective effect on the daily number of outpatient visits for dermatitis on the day of exposure, lag2 and lag4.

Conclusion: This study provided evidence of environmental factors like air pollutants , temperature and relative humidity on influencing the incidence and prevalence of dermatitis in Chengdu, China.

