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Prenatal exposure to air pollution and childhood allergy

Background: Evidence linking prenatal exposure to outdoor air pollution with allergic disease in early childhood is scare, and the role of components of air pollution and exposure timing remains unclear.

Objectives: We investigated the association between maternal exposure to air pollution during pregnancy and the prevalence of allergic diseases in preschool children.

Methods: We conducted a prospective cohort study of 2598 children aged 3–6 years in Changsha, China. The prevalence of allergic diseases was assessed by a standardized health questionnaire administered by the parents. Individual exposures to nitrogen dioxide (NO2), sulfur dioxide (SO2) and particulate matter with an aerodynamic diameter ≤ 10μm (PM10) during pregnancy and different trimesters were estimated by an inverse distance weighted (IDW) method based on concentrations measured at monitoring stations. Association between childhood allergic diseases and maternal exposure to air pollution was examined by logistic regression models in terms of odds ratio (OR) and 95% confidence interval (CI) for an interquartile range (IQR) increase in exposure.

Conclusion: Our findings indicates that childhood allergy is associated with maternal exposure to traffic-related air pollutant during pregnancy, which support the hypothesis that fetal origins of childhood allergy.

Speaker Biography

Qihong Deng has completed his PhD from Hunan University, China. He is now a distinguished professor of Central South University, China. He has over 100 publications that have been cited over 500 times, and his publication H-index is 20. He has been serving as editorial board members of several reputed journals and the president of international conference Healthy Buildings 2019 Asia.

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