

Topic: Indoor air pollution

Title: The first 2-year home environment in relation to the new onset and remission of asthmatic and allergic symptoms in 4246 preschool children

Conclusion: In Urumqi, China, mold contamination at home (moldy odor/visible mold), poor indoor air quality (stuffy odor, air dryness) and exposure to environmental tobacco smoke (ETS) in the first 2 years of life can increase the incidence of asthmatic and allergic symptoms and decrease the remission from these symptoms in preschool children.

Authors: Lin Z, Norback D, Wang T, Zhang X, Shi J, Kan H, Zhao Z

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Abstract: The home environment can influence childhood allergies and respiratory health but there is little information on associations between early life exposure at home and new onset and remission of the asthmatic or allergic symptoms in preschool children. A questionnaire survey was performed in a random cluster sample of 4246 preschool children in Urumqi, China. Information on the home environment (perceptions of odors and indicators of pollution sources) and children's health (wheeze, rhinitis and eczema) was collected for the first 2 years of life and the last year (before answering the questionnaire) from one of the parents or another guardian of the child. Associations between the home environment the first 2 years of life and new onset and remission of childhood symptoms were analyzed by multiple logistic regression. Home environment factors reported for the first 2 years of life were consistently positively associated with new onset of symptoms and negatively associated with remission of symptoms. Visible mold (OR 1.46, 95% CI 1.12–1.90), moldy odor (OR 2.15, 95% CI 1.45–3.18), air dryness (OR 1.31, 95% CI 1.08–1.59), stuffy odor (OR 1.25, 95% CI 1.01–1.54) and parental smoking (OR 1.36, 95% CI 1.13–1.65) were associated with new onset of symptoms. These factors were negatively associated with the remission of symptoms. In conclusion, mold contamination at home (moldy odor/visible mold), poor indoor air quality (stuffy odor, air dryness) and exposure to environmental tobacco smoke (ETS) in the first 2 years of life can increase the incidence of asthmatic and allergic symptoms and decrease the remission from these symptoms in preschool children.

Keywords: indoor air pollution; child; mold