the risk of allergic disease in nondietary ways. Nonetheless, the study presented an interesting observation given concerns about inducing allergy by introducing allergenic foods to infants.

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ALLERGENS AND ENVIRONMENTAL EXPOSURES

Home Environmental Intervention in Inner-City Asthma: A Randomized Controlled Clinical Trial

PURPOSE OF THE STUDY. To conduct a randomized, controlled clinical trial to test the efficacy of home-based methods to reduce environmental pollutants and allergen exposure in the homes of asthmatic children living in an inner city.

STUDY POPULATION. One hundred asthmatic children, ranging in age from 6 to 12 years, with physician-diagnosed asthma, current asthma symptoms, and no other chronic lung disease.

METHODS. The families were randomly assigned to a treatment group that received intervention immediately (home-based education, cockroach and rodent extermination, mattress and pillow encasings, and a high-efficiency particulate air cleaner) or to a control group that received intervention at the end of the 1-year trial. In the treatment group, 84% received cockroach extermination, 70% received mouse extermination, and 75% used the air cleaner. Outcomes were evaluated against baseline by home evaluation at 6 and 12 months, clinical evaluation at 12 months, and multiple telephone interviews.

RESULTS. Home particulate concentrations were lower at both 6 and 12 months in the treatment group. Home levels of particulate matter ≤10 μm declined by up to 39% in the treatment group as compared with an increase in the control group (P < .001), and cockroach-allergen levels decreased by 51% in the treatment group (P = .04). The proportion of symptomatic children increased in the control group and decreased in the treatment group, with significant differences seen at 6 months and later. In addition, children in the treatment group were significantly less likely to report daytime symptoms during the first 9 months compared with those in the control group. However, the mean difference in daytime symptoms over 12 months was only marginally significant (P = .07). Other measures of participant morbidity, such as nighttime symptoms, emergency department use, and spirometry findings, were not significantly changed during the study period.

CONCLUSIONS. A tailored program of environmental and behavioral interventions to reduce indoor particulate matter and other relevant allergen levels in low-income, inner-city homes had a modest effect on asthma morbidity.

REVIEWER COMMENTS. It is interesting to note that few of the 69% of the households with smokers in them changed smoking habits. Most likely, the environmental-control measures outlined in this article, implemented as part of a more comprehensive treatment plan including smoking cessation, could contribute more significantly to symptom reduction.

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Environmental Risk Factors of Rhinitis in Early Infancy

PURPOSE OF THE STUDY. To examine the impact of environmental tobacco smoke (ETS) and visible mold exposure on the development of allergic rhinitis, rhinitis, and upper respiratory infection (URI) in early infancy.

STUDY POPULATION. Six hundred thirty-three infants ≥35 weeks’ gestation with at least 1 parent who had 1 of 12 selected allergy symptoms and a positive skin-prick–test result to at least 1 of 15 Aeroallergens.

METHODS. The child’s birth certificate and a questionnaire format were used to collect demographic data and information on family smoking habits, family health history, pet ownership, day care attendance, breastfeeding, and the infants’ respiratory health history from birth to the time of enrollment. Parents were asked to complete monthly diaries to collect information on their child’s upper respiratory symptoms. They must have completed 1 diary before the child’s 12-month clinical examination. Allergic rhinitis was defined as having rhinitis symptoms not associated with a cold or chest infection at least once on any diary and a positive skin-prick–test result to ≥1 Aeroallergen at the 12-month visit. Study personnel examined the home for mold exposure within 3 weeks of study enrollment.

RESULTS. Infants were nearly 3 times more likely to have allergic rhinitis at 12 months of age (odds ratio [OR]: 2.7; 95% confidence interval [CI]: 1.04–6.8) and twice as likely to have rhinitis (OR: 1.9; 95% CI: 1.1–3.2) when exposed to ≥20 cigarettes per day. Infants were 5 times more likely (OR: 5.1; 95% CI: 2.2–12) to have frequent URIs when exposed to high mold levels. Having older
Environmental Risk Factors of Rhinitis in Early Infancy
Kirsten Kloepfer and Tamara T. Perry
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