To compare 2 populations of children with different risk and protective factors for the development of atopy.

STUDY POPULATION. The study group consisted of 415 children living in community foster homes in Lodz, a large industrial city in Poland. The reference group consisted of 500 children who were living with their parents at home and recruited from primary care centers.

METHODS. Questionnaires were completed by parents or guardians. The primary outcome measures were skin-prick test results to 14 environmental and 4 food allergens and specific immunoglobulin E (IgE) in serum. Secondary outcomes included symptoms of asthma and allergic diseases, lung function, parental allergy, and family history, including life conditions in early childhood, and markers of allergy, such as total IgE serum concentration and eosinophil blood cell count. Stool samples were analyzed for parasites.

RESULTS. The analysis included 408 study children and 402 reference children. Atopy was significantly more prevalent in the reference group (25.9%) than in the foster home children (11.3%). More positive skin-prick test results were observed in children from the reference group than in study children. Specific IgE was significantly higher to dust mites, timothy, and mugwort, as were asthma, rhinitis, and atopic dermatitis, in the reference group. To explain this phenomenon, the investigators selected 16 variables that differed in both groups in the first year of life and related them to atopy. They found that the more cumulative features characteristic of the foster home population (poor living conditions), the lower the risk of atopy.

CONCLUSIONS. Extremely unfavorable environmental circumstances, which are characteristic of the foster home population during early childhood, might prevent atopy.
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