

Update 10

Is exposure to household chemicals associated with asthma in young children?

Asthma is the most common chronic disease of childhood in the developed world. The primary aim of a recent study, by a Curtin University of Technology team, was to test the idea that early exposure to volatile organic compounds (VOCs), found in most households, increases the risk of asthma in young children.

The realisation that the early initiation phase of asthma is likely to occur during infancy and that infants spend most of their time indoors, where VOCs occur in high concentrations, provided the rationale for this study of indoor air quality and asthma in young children.

VOCs are irritants from indoor sources and include solvents, floor adhesive, paint, cleaning products, furnishings, polishes, and room fresheners. According to some researchers (2) levels of most VOCs can be 5-10 times higher indoors than outdoors. Furthermore, indoor exposure to VOCs has been related to asthma and asthmatic symptoms in previous studies.

The authors measured levels of volatile organic compounds (VOCs) in the homes of 88 toddlers with asthma and 104 without. Levels measured were lower than recommended maximums. VOCs are irritants and indoor sources include solvents, floor adhesives, paint, furnishings and cleaning products. Levels were measured twice - once in the winter and again in the summer. The children's parents were asked to fill out a detailed questionnaire on their child's health.

The study results suggest that children exposed to household VOCs had a greater risk of developing asthma than those not exposed.

Recent painting in the house was reported for significantly more cases than for children without asthma. High levels of some VOC's were caused by new carpet and new furniture.

The authors concluded,

“Domestic exposure to VOCs at levels below currently accepted recommendations may increase the risk of childhood asthma.”