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A cleaner's bill of health?

Large European study links occasional use of spray cleaners and air fresheners to adult asthma



Source: Mr November

Using aerosolised household cleaners just once a week could raise the risk of adults developing asthma, data from the European Community Respiratory Health Survey shows.

“Frequent use of common household cleaning sprays may be an important risk factor for adult asthma,” conclude Jan-Paul Zock, of the Centre for Research in Environmental Epidemiology in Barcelona, Spain, and colleagues. “One in seven adult asthma cases could be attributed to common spray use,” they write in the *American Journal of Respiratory and Critical Care Medicine* this week.

The risk was greatest with commonly used glass-cleaning, furniture, air-refreshing sprays, and it rose with the frequency of use, or number of different spray products. Although liquid cleaning products tended to have most of the same ingredients to sprays, those products not applied in spray form were not associated with asthma.

“The application through spraying is likely to facilitate respiratory exposure to these components, explaining why we have observed associations with the use of sprays but not liquid cleaners,” Zock and colleagues write.

Hints that cleaning workers, particularly domestic cleaners, are at greater risk from asthma have emerged in the past decade, and the finger has been pointed at several professional products, including bleach and sprays. The initial phase of the European Community Respiratory Health Survey (ECRHS I) highlighted a small but significant excess of asthma in homemakers too, so Zock and colleagues focused on this in the follow-up survey (ECRHS II), an average of nine years later.

“This is the first epidemiological study that evaluated the risk of adult asthma related to nonoccupational use of common household cleaning products,” the authors say.

Their study included more than 3500 subjects from 10 countries across Europe, who were tested for current allergies, asthma, or wheezing, and interviewed about their use of cleaning products. Just over 40% of the group reported using sprays at least once a week. On average those who regularly used these products were 30–50% more likely to develop asthma than their counterparts who didn't.

The research did not narrow risk down to any **particular class of chemical** in the spray, nor did it explore a biological mechanism behind the observation. Nonetheless, the authors speculate that the asthma could have been at least partly irritant induced. It is also possible, they note, that the sprays contain particular chemicals that sensitise the individual to asthma or induce an inflammatory response involved in asthma development.

“This finding needs to be confirmed in future studies, with a particular emphasis on chemical composition and other exposure determinants, and on the effect mechanisms involved, including sensitization and inflammatory reactions,” they conclude.

References and links

1. Zock J-P, Plana E, Jarvis D, Antó JM, Kromhout H, Kennedy SM, *et al.* The use of household cleaning sprays and adult asthma: An international longitudinal study. *Am J Respir Crit Care Med* 2007, **176**:735–41. doi: [10.1164/rccm.200612-1793OC](https://doi.org/10.1164/rccm.200612-1793OC)

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