

## **RECRUITMENT OF SUBJECTS FOR HUMAN EXPOSURE STUDIES: HOW WELL DO QUESTIONNAIRE-ASSESSED ASTHMA AND ALLERGY DATA AGREE WITH THE CLINICAL TESTS?**

Vera van Kampen, Frank Hoffmeyer, Jürgen Bünger, Christian Monsé, Thomas Brüning, Monika Raulf, Kirsten Sucker

Institute for Prevention and Occupational Medicine of the German Social Accident Insurance, Institute of the Ruhr University Bochum (IPA)

### **Question**

For experimental inhalation studies healthy individuals are needed. Due to the fact that atopic/allergic subjects are more sensitive to certain exposures than non-allergic individuals, it was important to accurately identify volunteers with atopy, allergy or asthma.

### **Methods**

Interested volunteers first answered an online health questionnaire and those who reported asthma were excluded. The remaining 105 volunteers (median age: 24 (19-37) years, 56% women), including 14 (13%) who reported a previous positive allergy test (10 with symptoms), participated in a medical examination consisting of a physical examination, skin prick test (SPT) to 9 ubiquitous allergens, quantification of total IgE and specific IgE (sIgE) to an ubiquitous allergen mix (sx1) as well as pulmonary function test and methacholine test.

### **Results**

The median value for sIgE to sx1 was 0.20 kU/L (0.07-91.3 kU/L) and correlated significantly with total IgE (28.8 kU/L (2-756 kU/L)). Forty-three subjects (41%) had sIgE to sx1  $\geq$  0.35 kU/L and 35 of them showed also at least one positive SPT. With the exception of one, all subjects who reported a previous positive allergy test were positive in both, sIgE and SPT. Obstruction (n=3), small airway disease (n=11), and/or bronchial hyperreactivity (n=11) were diagnosed in 18 subjects.

### **Conclusion**

Although predominantly young and according to self-reported statements non-asthmatic and predominantly non-allergic subjects participated in the medical examination, almost half of them showed signs of sensitization/atopy and 10% even airway disease/bronchial hyperreactivity. A questionnaire-assessed positive allergy test reliably indicates an atopy/allergy.