

Changes of the patch test population (MOAHLFA index) in long-term participants of the Information Network of Departments of Dermatology*, 1999–2006

Contact Dermatitis 2008; 59: 56–57

Wolfgang Uter¹, Olaf Gefeller¹,
Johannes Geier² and Axel Schnuch²

¹Department of Medical Informatics, Biometry and Epidemiology, University of Erlangen-Nürnberg, D-91054 Erlangen, Germany, and ²Information Network of Departments of Dermatology, the University of Göttingen, D-37075 Göttingen, Germany

Key words: ageing; allergic contact dermatitis; clinical epidemiology.

The profound impact of demographic and clinical characteristics of patients on the observed spectrum and frequency of contact allergy has prompted the introduction of the MOAHLFA index (1). In a previous paper, we have examined the annual prevalences of MOAHLFA factors over the period 1993–1998 in the Information Network of Departments of Dermatology (IVDK) network, comprising 17 centres (2). The present study aims at supplementing these results with

current data and at discussing the consequences for the interpretation of patch test data.

Methods and Results

In the test period, 18 centres continuously contributed quality-checked data (3) to the IVDK network (www.ivdk.org), 13 of these already included in the previous analysis and another 5 having joined before 1999. Altogether, 48 981 patients were seen in the period. Results in terms of the MOAHLFA index, aggregated per year, are presented in Table 1. Proportions were statistically tested for trend with the 2-sided Cochran–Armitage test.

Both the proportions of patients with past or current atopic dermatitis and with occupational skin disease increased slightly. However, the most marked change was a significant increase of the proportion of patients aged 40 years and above by more than 7%, or, in more detail, the median (Q1–Q3) of age increased from 47 years (32–60 years) in 1999 to 50 years (36–63 years) in 2006.

Comment

The increase in age of the patients, quantified as proportion of patients aged 40 years and above, along the lines of Schnuch et al. (1), was from 53.2% in 1993 to 59.5% in 1998 in the previous analysis. This trend continued and yielded its preliminary peak at almost 70% in 2006. This consistent trend is probably related to the increasing proportion of older persons in the population: in Germany, the proportion of individuals aged 40 years and above increased from 47% in 1993 to 55% in 2006 (4). The effect of demographic change alone is probably enhanced by the fact that contact allergy to many compounds [such as the fragrance mix (5); for a broader scope of allergens, see Uter et al. (6)] is more common with increasing age, potentially prompting dermatological consultation and patch testing. These 2 aspects have important implications for the analysis of time trends in contact allergy: the possible confounding effect of underlying changes of the age of the patch test population, which is quite considerable in our data, must be adequately taken into account if sensitization risk to the allergen(s) considered is age dependent. Otherwise,

*The following members of the Information Network of Departments of Dermatology contributed data to this analysis (in alphabetical order): Augsburg (A. Ludwig), Berlin Charité (M. Worm and T. Zuberbier), Dortmund (C. Pirker, K. Kügler, P.J. Frosch, and R. Herbst), Dresden (G. Richter, P. Spornraft-Ragaller, and R. Aschoff), Erlangen (M. Fartasch, M. Hertl, and V. Mahler), Essen (U. Hillen), Graz (B. Kränke and W. Aberer), Göttingen (J. Geier and Th. Fuchs), Halle (B. Kreft, D. Lübke and G. Gaber), Heidelberg (A. Schulze-Dirks, M. Hartmann, and U. Jappe), Homburg/Saar (C. Pföhler and P. Koch), Jena (A. Bauer, M. Kaatz, S. Schliemann-Willers, and W. Wigger-Alberti), Kiel (J. Brasch), Mainz (D. Becker), Marburg (H. Löffler, I. Effendy, and M. Hertl), München TU (J. Rakoski and U. Darsow), Nürnberg (A. Hohl, D. Debus, and I. Müller), Osnabrück [Ch. Skudlik, H. Dickel, and H.J. Schwanitz (deceased), N. Schürer, S.M. John, and W. Uter].

Table 1. The MOAHLFA index in the course of 8 years in 18 departments of the Information Network of Departments of Dermatology

	1999	2000	2001	2002	2003	2004	2005	2006	P (trend)	Total
Consultations (n)	6660	6803	6716	5948	6144	5810	5531	5369	–	48981
Male (%)	38.1	38.6	37.6	38.0	36.9	36.8	37.4	38.5	0.33	37.8
Occupational (%)	14.9	15.0	16.5	15.9	16.8	17.0	15.7	16.8	0.001	16.0
Atopic dermatitis (%)	16.8	17.0	16.3	17.1	16.0	17.1	17.9	18.1	0.025	17.0
Hand dermatitis (%)	27.8	28.1	28.5	28.9	29.5	28.5	26.7	27.7	0.44	28.3
Leg dermatitis (%)	11.2	11.1	9.2	11.4	12.4	12.0	11.0	10.5	0.36	11.1
Face dermatitis (%)	14.6	14.4	12.9	13.9	12.4	13.8	13.6	13.8	0.11	13.7
Aged 40 years and above (%)	62.5	63.7	63.1	65.3	66.4	68.9	69.1	69.9	<0.0001	65.9

a meaningful interpretation of time series data is not possible. Interestingly, the proportion of patients with leg dermatitis, a strongly age-dependent condition, remained largely constant.

In conclusion, we recommend examining possible changes in the patch test population underlying any single centre or multicentre time series data and to consider these factors in comparisons across time, if necessary.

References

1. Schnuch A, Geier J, Uter W et al. National rates and regional differences in sensitization to allergens of the standard series. Population adjusted frequencies of sensitization (PAFS) in 40,000 patients from a multicenter study (IVDK). *Contact Dermatitis* 1997; 37: 200–209.
2. Uter W, Geier J, Schnuch A. The MOAHLFA index in 17 centers of the Information Network of Departments of Dermatology (IVDK) during 6 years. *Contact Dermatitis* 1999; 41: 343–344.
3. Uter W, Mackiewicz M, Schnuch A, Geier J. Interne Qualitätssicherung von Epikutantest-Daten des multizentrischen Projektes 'Informationsverbund Dermatologischer Kliniken' (IVDK). *Dermatol Beruf Umwelt* 2005; 53: 107–114.
4. Statistisches Bundesamt, Wiesbaden, Germany. <http://www.destatis.de/jet-speed/portal/cms/Sites/destatis/Internet/DE/Content/Statistiken/Bevoelkerung/VorausberechnungBevoelkerung/InteraktiveDarstellung/Content75/Bevoelkerungspyramide1W1,templateId=renderSVG.psm1>. (accessed 13 May 2008).
5. Buckley D A, Rycroft R J, White I R, McFadden J P. The frequency of fragrance allergy in patch-tested patients increases with their age. *Br J Dermatol* 2003; 149: 986–989.
6. Uter W, Gefeller O, Geier J, Lessmann H, Pfahlberg A, Schnuch A. *Untersuchungen zur Abhängigkeit der Sensi-*

bilisierung gegen wichtige Allergene von arbeitsbedingten sowie individuellen Faktoren. Schriftenreihe der Bundesanstalt für Arbeitsschutz und Arbeitsmedizin, Forschung, Fb 949. Bremerhaven, 2002.

Address:

Wolfgang Uter, MD
Department of Medical Informatics
Biometry and Epidemiology
University of Erlangen-Nürnberg
Waldstr 6
D-91054 Erlangen
Germany
Tel: +49-9131-8522720
Fax: +49-9131-8522721
e-mail: wolfgang.uter@rzmail.
uni-erlangen.de