

Editorial

European Union meets the challenge of the growing importance of allergy and asthma in Europe

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Allergic diseases and asthma represent one of the most common chronic pathological conditions throughout the world (1, 2). They usually start early in infancy or childhood and often persist throughout life (3). They are extremely common in developed countries. It is estimated that 2–15% of the European population suffers from asthma, and that, in some countries, allergy may affect over 50% of children. Moreover, the prevalence of allergic diseases and asthma has actually increased during the past three to four decades. More recently a similar increase has been noted in developing countries, and these diseases now represent an important problem (4). In the European Union (EU) the prevalence and severity of allergic diseases including asthma present a serious challenge both to health care systems and to society as a whole. Specific problems include the continuing increase in the prevalence of food allergy, which is a particular concern because it may be life-threatening, and it has a major impact on patient's lives (7). This problem affects mainly children (5, 6) but also an increasing number of adult pollen allergic patients. Occupational allergy is another important medical and economic problem which is under recognized and needs a more careful evaluation

(1, 8). The interaction between the indoor and outdoor environment is critical for the development of these diseases (9).

Allergic diseases and asthma also seriously affect the social life of the patients. Asthma is still a leading condition of school absenteeism as well as a major cause of work absenteeism (10) but even more importantly good investigations regarding the impact of allergies on cognitive functions and the reduced performance in education and work are hardly available. Finally, direct and indirect costs for allergic diseases and asthma have sharply risen within the past 10 years (11–13).

Although the use of asthma guidelines has reduced morbidity and mortality, the burden of asthma is still high and both the knowledge of better treatment options and their implementation need to be improved (1) as does the development of more effective preventive strategies. Knowledge of the causes of the atopic response and of asthma have greatly increased over the last decade with major advances in our knowledge of the effects of infection, diet and the environment. There remains, however, a major gap between this knowledge and the ability to mount effective preventive campaigns.

Allergic diseases and asthma still represent a global health problem of increasing concern which should be addressed in its totality (14). Effective solutions to these considerable problems will require a major research initiative to address questions of causation and pathogenesis together with the development and evaluation of new strategies to improve the prevention and management of the allergic diseases (15). Moreover, it is necessary to improve patient information and education (16) and to provide adequate consumer protection (17–19).

European Union funded research in allergy and asthma

For many years, the EU has funded research in allergy and asthma. The list of EU funded research programmes can be found on the Community Research and Development Information Service (CORDIS) Web site which provides information on all EU-supported R&D activities, including programmes, projects and results.

European Union funded research has been carried out under Framework Programmes (1–6) and one of the earliest EU programmes was the European Community Respiratory Health Survey (ECHRS) coordinated by P. Burney (20). This programme represented a landmark study of allergic diseases and asthma. It was the first to have made comparisons possible across Europe and beyond and it has enabled the identification and quantification of several risk factors for asthma (21, 22).

During the period 1994–1998, EU RTD activities in Medicine were carried out under the Fourth Framework Programme (FP4). BIOMED 2 was launched to support medical research activities in line with the priorities set out in the Council Decision of 15 December 1994 adopting the specific programme on Biomedicine and Health. The programme aimed to improve medical knowledge and the health of the European population, as well as increasing the competitiveness of the European health industry by strengthening the scientific basis. There was also an emphasis on promoting the transfer of research results into clinical practice. The European Network For Understanding the Mechanisms Of Severe Asthma (ENFUMOSA, co-ordinator: S. T. Holgate, Southampton, UK) project, part of BIOMED 2 (23) and the AIR21166 (Immunoprotective effects of human lactoferrin, co-ordinator: J. Bousquet, Montpellier, France) were among the projects concerning allergy.

The Fifth Framework Programme (FP5) was conceived to help solve problems and respond to major socio-economic challenges the EU is facing. It was run during the period 1998–2002. It focused on a number of objectives and areas combining technological, industrial, economic, social and cultural aspects. Several programmes were devoted to allergy and asthma. Exploratory awards and personal contracts were not listed.

- AIRALLERG (Risk assessment for exposure to traffic-related air pollution and the development of inhalant allergy, asthma and other chronic respiratory conditions in children): cost-sharing contract, co-ordinator: G. A. van Strien (Utrecht, The Netherlands).
- ALLERGENTEST (Development of rapid easy-to-use immunochemical tests for the detection of proteins with allergenic potential in foods): shared-cost contract, co-ordinator: R. Krska (Tulln, Austria).
- ALLERGEST (The effect of gastrointestinal digestion on the allergenicity of foods): cost-sharing contract, co-ordinator: S. Yannai (Haifa, Israel).
- ALLERGYFLORA (Impact of intestinal microflora on allergy development): cost-sharing contract, co-ordinator: M. Ahlqvist (Gothenburg, Sweden).
- BIOAIR (Longitudinal assessment of clinical course and BIOMarkers in severe chronic AIRway disease): cost-sharing contract, co-ordinator: S. E. Dahlen (Stockholm, Sweden).
- CREATE (Development of certified reference materials for allergenic products and the validation of methods for their quantification): cost-sharing contract, co-ordinator: R. van Ree (Amsterdam, The Netherlands).
- CYPBALL (Development of the cypress standardized extract for diagnosis of pollen allergy and selection of cypress plants with low allergenic potential): cooperative research contract starting in 2003, co-ordinator: G. Mistrello (Milan, Italy).
- ESSCA-DC (European surveillance system on contact allergies-data Centre): coordination of research actions, co-ordinator: A. Schnuch (Goettingen, Germany).
- EU-PAL (European prospective study of environment, allergy and the lung): cost-sharing contract, co-ordinator: S. Brooke (London, UK).
- FAREDAT (Food Allergy Risk Evaluation based on improved Diagnosis, Allergens and Test methods): cost-sharing contract, co-ordinator: L. Poulsen (Copenhagen, Denmark).
- FRAGRANCE ALLERGY (Fragrance chemical allergy: a major environmental and consumer health problem in Europe): cost-sharing contract starting in 2003, co-ordinator: J. Y. Merindol (Strasbourg, France).
- HELIOS (Biomarkers for the noninvasive assessment of acute and chronic effects of air pollutants of the respiratory epithelium. Development and application to adults and children along a North-South gradient): cost-sharing contract, co-ordinator: M. Crochet (Louvain, Belgium).
- HUCCELLALL (Human cell systems for predicting the allergenicity of genetically engineered proteins): cost-sharing contract, co-ordinator: P. G. Nilsson (Lund, Sweden).
- INFABIO (Effect of diet and lifestyle on risk of gastrointestinal infection and allergy in early life; consumer knowledge, attitudes and needs): cost-sharing contract, co-ordinator: C. Edwards (Glasgow, UK).

- **INFORMALL** (Communicating about food allergies – information for consumers, regulators and industry): concerted action contract, co-ordinator: C. Mills (Norwich, UK).
- **LABDEL** (Oral delivery of vaccine and therapeutic products using nonpathogenic lactic acid bacteria): cost-sharing contract, co-ordinator: J. Wells (Norwich, UK).
- **LUNG SP-A AND SP-D** (Control of lung infection, allergy and inflammation: assessment of the therapeutic potential of recombinant forms of lung surfactant proteins SP-A and SP-D): cost-sharing contract, co-ordinator: M. A. Coriat (London, UK).
- **MAAPHRI** (Multidisciplinary approach to airborne pollutant health-related issues: modelization with combustion engine exhausts): cost-sharing contract, co-ordinator: C. Mazingue (Paris, France).
- **PARSIFAL** (Prevention of allergy – risk factors for sensitization in children): cost-sharing contract, co-ordinator: H. Marshall-Heyman (Stockholm, Sweden).
- **PASTURE** (Protection against allergy: study in rural environments): cost-sharing contract starting in 2003, co-ordinator: D. von Fuchs-Bottke (Munich, Germany).
- **PDCAAE** (Prevalence and determinants of childhood asthma and allergies across Europe): cost-sharing contract, co-ordinator: M. Gotthardt (Muenster, Germany).
- **PLUTOCRACY** (Placental uptake and transfer of environmental chemicals relating to allergy in childhood years): cost-sharing contract, co-ordinator: R. Fleetwood (Bristol, UK).
- **PREHEAT** (Novel methods for predicting, preventing and treating attacks in patients with hereditary angioedema): coordination of research actions, co-ordinator: E. Decelva (Milan, Italy).
- **PROTALL** (Food allergens of plant origin – the relationship between allergenic potential and biological activity): concerted-action contract, co-ordinator: C. Mills (Norwich, UK).
- **RAIAP** (Respiratory allergy and inflammation due to ambient particles – a European-wide assessment): cost-sharing contract, co-ordinator: B. Hareide (Oslo, Norway).
- **REDALL** (Reduced allergenicity of processed foods containing animal allergens): cost-sharing contract, co-ordinator: A. Paschke (Hamburg, Germany).
- **SAFE** (Plant food allergies: field to table strategies for reducing their incidence in Europe): cost-sharing contract, co-ordinator: K. Hoffmann-Sommergruber (Vienna, Austria).
- **SUNALL** (Allergy to the sun: multidisciplinary investigation on the prevalence, pathogenesis, treatment and prevention of polymorphic light eruption across Europe): cost-sharing contract, co-ordinator: N. Fergusson (Manchester, UK).

- **TRAFSA** (Therapeutic recombinant allergens from structural allergology): cost-sharing contract, co-ordinator: T. Bjerke (Horsholm, Denmark).

At the Lisbon summit in March 2000, the EU governments called for a better use of European research efforts through the creation of an internal market for science and technology: a 'European Research Area (ERA)'. The Sixth Framework Programme (FP6) is the financial instrument made to help ERA a reality. It has been recently launched and attracted an enormous interest. Among the thematic areas of FP6, two are of interest for allergy and asthma: 'life sciences, genomics and biotechnology for health' and 'food quality and safety'. Hundreds of ambitious projects have been submitted and only a few of them have been selected. GA²LEN, the Global Allergy and Asthma European Network, is one of them. It is a network of excellence in which the European Academy of Allergology and Clinical Immunology (EAACI) is a partner.

The second call of FP6 contains a topic devoted to the epidemiology of food allergy, both among children and adults. The prevalence and possible increase of food allergy will be studied. Development of novel diagnostic tools and methodologies based on well-defined food allergens is an important aspect. The role of exposure to foods, environmental factors and infections during foetal life, childhood and adult life in the development of food allergies and other hypersensitivity disorders will be studied. Possible genetic predispositions to develop food allergies will also be a major topic. Last but not least, the socio-economic impact of food allergy to society will be assessed and plans for dissemination to consumers, patients, regulators and food-producers will be developed.

Health and consumer protection

There are initiatives in allergy and asthma from other Directorates of the European Commission (DG) and in particular within the DG SANCO (Health and Consumer Protection Directorate General, http://europa.eu.int/comm/dgs/health_consumer), which is responsible for issues that are relevant to the daily lives of each of Europe's citizens. The overall goal of the DG is to promote a better quality of life by ensuring a high level of protection of consumers' health, safety and economic interests as well as of public health. This overall goal is addressed through legislative and nonlegislative actions in three interrelated policy areas:

- Consumer policy (Treaty Articles 95 and 153).
- Public health (Treaty Articles 95, 152 and 300).
- Food safety, animal health, animal welfare and plant health (Treaty Articles 37, 95 and 152). Effective population-based strategies require people trained and competent in the discipline of Public Health Nutrition (24).

In allergy and asthma, the DG SANCO has provided a grant for the 'indoor air quality in European schools' project of EFA (European Federation of Allergy and Airways Diseases Patients Associations, <http://www.efanet.org>). The objectives of the project were to collect information on indoor air quality (IAQ) in European schools, to review the related policies and preventive programmes and to formulate recommendations aimed at providing a healthy school environment (http://www.chps.net/info/iaq_papers/PaperVI.2.pdf).

A new series in allergy

Although the EU has a major involvement in allergy and asthma, unfortunately, there often is insufficient awareness of the EU-funded research and health policies in the medical press. The study protocols of the programmes are usually not published and are not

therefore available on Medline. There is a need for a more extensive publicity of the efforts of EU on this global health problem affecting subjects of all ages in all European nations.

Allergy is proud to announce that, every month, there will be a paper concerning the EU activities in allergy and asthma. This column entitled 'News from the European Union' will be co-ordinated by Ignacio J. Ansotegui and Ronald van Ree. It will cover all possible fields in which the EU is involved in allergy and asthma, including programmes such as GA²LEN, the Global Allergy and Asthma European Network, projects and results, changes in health policies and consumer protection as well as any other news which may be of importance to the readers of Allergy.

We hope that this column will help our readership to follow major developments in European policy in this area and the major impact of the EU in allergy and asthma in Europe.

References

1. Global strategy for asthma management and prevention. Revised 2002. <http://www.ginasthma.com> 2002.
2. BOUSQUET J, VANCAUWENBERGE P, KHALTAEV N. Allergic rhinitis and its impact on asthma (ARIA) – executive summary. *Allergy* 2002;**57**:841–855.
3. CRANE J, WICKENS K, BEASLEY R, FITZHARRIS P. Asthma and allergy: a worldwide problem of meanings and management? *Allergy* 2002;**57**:663–672.
4. BOUSQUET J, NDIAYE M, AIT-KHALED N, ANNESI-MAESANO I, VIGNOLA AM. Management of chronic respiratory and allergic diseases in developing countries. Focus on sub-Saharan Africa. *Allergy* 2003;**58**:265–283.
5. SICHERER SH. Food allergy. *Lancet* 2002;**360**:701–710.
6. CRESPO JF, RODRIGUEZ J. Food allergy in adulthood. *Allergy* 2003;**58**:98–113.
7. MUNOZ-FURLONG A. Daily coping strategies for patients and their families. *Pediatrics* 2003;**111**:1654–1661.
8. COPILEVITZ C, DYKEWICZ M. Epidemiology of occupational asthma. *Immunol Allergy Clin North Am* 2003;**23**:155–166.
9. STRACHAN DP. The role of environmental factors in asthma. *Br Med Bull* 2000;**56**:865–882.
10. GERTH VAN WIJK R. Allergy: a global problem. *Quality of life. Allergy* 2002;**57**:1097–1110.
11. SCULPHER MJ, PRICE M. Measuring costs and consequences in economic evaluation in asthma. *Respir Med* 2003;**97**:508–520.
12. KEMP AS. Cost of illness of atopic dermatitis in children: a societal perspective. *Pharmacoeconomics* 2003;**21**:105–113.
13. LEE TA, WEISS KB. An update on the health economics of asthma and allergy. *Curr Opin Allergy Clin Immunol* 2002;**2**:195–200.
14. BOUSQUET J. Allergy as a global problem: 'think globally, act globally'. *Allergy* 2002;**57**:661–662.
15. ASHER I, BONER A, CHUCHALIN A, CUSTOVIC A, DAGLI E, HAUS M et al. Prevention of allergy and asthma: interim report. *Allergy* 2000;**55**:1069–1088.
16. POWELL H, GIBSON PG. Options for self-management education for adults with asthma. *Cochrane Database Syst Rev* 2003;CD004107:155–166.
17. HOURIHANE JO. Community management of severe allergies must be integrated and comprehensive, and must consist of more than just epinephrine. *Allergy* 2001;**56**:1023–1025.
18. EIGENMANN PA. Food allergy: a long way to safe processed foods. *Allergy* 2001;**56**:1112–1113.
19. LEITCH I, BLAIR IS, McDOWELL DA. The role of environmental health officers in the protection of allergic consumers. *Int J Environ Health Res* 2001;**11**:51–61.
20. BURNEY PG, LUCZYNSKA C, CHINN S, JARVIS D. The European Community Respiratory Health Survey. *Eur Respir J* 1994;**7**:954–960.
21. JANSON C, ANTO J, BURNEY P, CHINN S, DE MARCO R, HEINRICH J et al. The European Community Respiratory Health Survey: what are the main results so far? European Community Respiratory Health Survey II. *Eur Respir J* 2001;**18**:598–611.
22. The European Community Respiratory Health Survey II. *Eur Respir J* 2002;**20**:1071–1079.
23. SAMPSON AP. The role of eosinophils and neutrophils in inflammation. *Clin Exp Allergy* 2000;**30**(Suppl 1):22–27.
24. YNGVE A, WARM D, LANDMAN J, SJOSTROM M. A European Master's Programme in Public Health Nutrition. *Public Health Nutr* 2001;**4**:1389–1391.