

NEWS AND COMMENTARIES

Impact of early diagnosis and control of chronic respiratory diseases on active and healthy ageing

A debate at the European Union Parliament

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A debate at the European Union Parliament was held on 13 November 2012 on the Impact of early diagnosis and control of chronic respiratory diseases on Active and Healthy Ageing. The debate was organized by the Région Languedoc-Roussillon under the auspices of the Cyprus EU Presidency (2012) (Fig. 1). It represents a follow-up of the priorities of the Polish EU Presidency (2011). The proceedings of the debate are summarized in this article.

Welcome and opening speech

MEP Claudiu Ciprian Tanasescu

MEP Tanasescu stressed the importance of early diagnosis and management of chronic respiratory diseases (CRD) to improve active and healthy ageing (AHA). He indicated the need for a concerted action on EU health policies. AHA implies good health for individuals but also refers to their capacity to continue to be active in society and participate in economic, cultural, spiritual and civic affairs. MEPs in the European Parliament promote healthy lifestyle behaviours and integrate health in all policies on education, research, environment and/or employment. Novel technology will allow the development of new tools to attain objectives, ease communication with young people and increase cooperation between public health networks. The support of the presidency on the debate should encourage the implementation of chronic respiratory diseases into the health policies of all EU Member States (MS).

Abbreviations

AHA, Active and healthy ageing; CRD, Chronic respiratory diseases; COPD, Chronic obstructive pulmonary disease; CVD, Cardiovascular diseases; DOHaD, Developmental Origins of Health and Disease; EAACI, European Academy of Allergy and Clinical Immunology; EFA, European Federation of Allergy and Airways Diseases patients' associations; EIP on AHA, European Innovation Partnership on Active and Healthy Ageing; ERS, European Respiratory Society; ERS, European Rhinology Society; EU, European Union; FP, Framework programme; GA²LEN, Global Allergy and Asthma European network (FP6); IPCRG, International Primary Care Respiratory Group; LR, Languedoc-Roussillon; MeDALL, Mechanisms of the Development of Allergy (FP7); MS, Member States; NCD, noncommunicable disease; PAPA, Prevention of Asthma, Prevention of Allergy; WHO, World Health Organization.

Allergic diseases appear early in life and are caused by complex environmental factors that, in most cases, are preventable. Effective treatment and preventive strategies need to be promoted and made available to all patients. Research including epidemiology (birth cohorts) is essential to improve prevention and treatment.

Over 200 million people, most of them being children, suffer from asthma. Not all causes of asthma are understood, as indicated by WHO, but risk factors including allergens, tobacco and chemical irritants need to be prevented to enable people to enjoy a good quality of life.

Chronic obstructive pulmonary disease (COPD) is expected to become the third leading cause of death by 2030. It is important to take action with children in order to prevent the disease.

Fighting chronic diseases. The involvement of the Languedoc-Roussillon region (LR region)

Thierry Camuzat

A local authority, like the LR region, should be concerned about AHA even when it is not directly involved in health care or the medical system, since health is ultimately a social and economic issue. The elderly population of the LR region is high and increasing fast. The region has decided to be proactive by instigating a series of actions including global, cross-departmental, collective and innovative answers to the priority of chronic diseases in AHA. The President of the LR region, Mr Christian Bourquin, is leading a regional multisectoral, private and public partnership (Fighting CD: Fighting Chronic Diseases for Active and Healthy Ageing), which includes allergic and CRD.

Control of allergic and chronic respiratory diseases in children to improve AHA: The Polish priority of the Council of the EU (2011)

Boleslaw Samolinski

Chronic respiratory diseases, especially allergy and asthma, the most common noncommunicable diseases in children, can be observed in about 30% of the European population and play a crucial role in all countries, being responsible for com-



Figure 1 Organizations sponsoring the debate.

orbidities. COPD is very prevalent in older age and is the 4th leading cause of death (1).

The Polish Presidency of the EU Council showed that health inequalities start at an early age. In the Council Conclusion, the EU Member States and EU Commission are invited to include CRD in children in national and European health policy by early prevention, diagnosis and treatment. This should have a positive impact on child development and quality of life and will contribute to an active and healthy childhood – the first step to AHA (2, 3).

The European Parliament is invited to pay greater attention to this issue and to support all efforts leading to improve the respiratory conditions of the EU population.

Healthy ageing across the life cycle: The Cyprus priority of the Council of the EU (2012)

Panayiotis Yiallourous

On 5–6 September 2012, the Cyprus Presidency of the EU Council organized a high-level conference on 'Healthy Ageing across the Lifecycle' that provided evidence that AHA is closely related to effective health promotion and disease prevention programmes, starting from the early years of life. The main conclusions of the meeting were as follows:

1. To make AHA across the life cycle one of the EU priorities.
2. To shift the focus towards health promotion and early diagnosis from infancy throughout the life cycle as a strategy to improve quality of life and reduce the burden of chronic diseases, frailty and disability by:
 - Implementing health promotion and disease prevention for healthy lifestyle behaviours in childhood and adolescence.

- Promoting early diagnosis through evidence-based, cost-effective, affordable and easily accessible tools and programmes.
 - Adopting strategies for combating NCD risk factors (tobacco, alcohol, unhealthy diet and lack of physical activity).
 - Identifying and disseminating good practices to address NCDs and their risk factors.
 - Promoting policies that sustain the health of the working age population, leading to productivity and growth.
 - Promoting age-friendly environments and supporting the engagement of older patients in self-management programmes.
3. To support future actions and initiatives addressing health determinants and risk factors at EU, national, regional and local level by adopting a multidisciplinary approach and working across society and policy areas, involving public authorities and stakeholders (health professionals and patients, social partners and civil society, media and economic actors).

Birth cohorts are essential to understand chronic diseases in adults and the elderly

Josep M. Anto

The occurrence of NCD during adulthood and the elderly is partly related to developmental factors of foetal life and infancy (4, 5), ascribed to the Developmental Origins of Health and Disease (DOHaD) (6). Foetal and early life developments optimize adaptation to environmental changes through plasticity, making tissues and organs vulnerable to environmental factors like nutrition, chemicals or passive smoking. The early origins of asthma (7, 8) and COPD (9) are supported. Birth cohort studies have played a crucial role in understanding the early origins of asthma and its possible links with COPD. The

earliest birth cohorts are now entering early adulthood. Combining existing birth cohorts has proven a useful strategy. MeDALL, an FP7 EU project, includes 14 European birth cohorts with a strong focus on asthma and allergy in an integrative translational approach (10, 11). MeDALL will expand current knowledge on how genomic and environmental determinants of allergic diseases interact from early life to adolescence. In addition, newly recruited birth cohorts will lead to a refined hypothesis and new environmental determinants. The evidence on DOHaD is robust and repeatable across species, including humans, providing significant insight into new strategies for research and disease prevention (12). A focused public policy to protect pregnancy and early life development from social and environmental risks is required.

Preventing COPD in childhood

Francesco Blasi

Chronic obstructive pulmonary disease manifestations occur in adulthood or the elderly. This preventable lung disease is increasing and expected to become the third leading cause of death by 2030. The most important risk factor for COPD is active smoking, and therefore, smoking prevention should be given the highest priority to reduce COPD occurrence. Other (environmental) risk factors for COPD are occupational exposures, exposure to biomass and respiratory infections.

However, early life development may partly determine subsequent COPD morbidity. A study in 13,000 people showed that maternal or paternal asthma, childhood asthma, maternal smoking and childhood respiratory infections predict impaired adult lung function, a faster rate of lung function decline and a greater prevalence of COPD (13).

Modifications of prenatal and/or early post-natal lung development have important implications for future lung function and risk of CRD throughout life (14, 15). To address these knowledge gaps and to enable a fruitful cross-fertilization of ideas for the development of both novel effective therapies as well as preventative strategies for chronic lung diseases, a road map for future research that integrates clinical and basic research disciplines will be essential.

PAPA: Prevention of Asthma, Prevention of Allergy

Jean Bousquet

Effective strategies are needed to reduce the asthma and allergy burden. The Finnish Asthma Programme (1994–2004) has shown a cost-effective reduction in deaths, hospitalizations and disability pensions. It has been extended to 7 other countries, and asthma burden has been reduced (16–18). However, no reduction in asthma prevalence was found. The Finnish Allergy Programme (2008–2018) is implemented using an evidence-based analysis (19, 20). It is important to combine the Asthma and Allergy plans since they have common goals and many measures are common or synergistic.

The prevention of asthma, prevention of allergy objective is to allow the practical use of a combined asthma and

allergy programme with a uniform severity assessment (21) by all European countries following the Finnish Asthma and Allergy Plans and to implement cost-effective policies on the prevention of asthma and allergy. PAPA has a particular interest in the cultural and social aspects of the diseases in a project centred around the patient.

The WHO Collaborating Centre for Asthma and Rhinitis (Montpellier) will lead the project in collaboration with EAACI, EFA and IPCRG. A deployment beyond Europe is ongoing.

How research in allergy can have an impact on healthy ageing

Nikolaos G. Papadopoulos

Active and healthy ageing is a factor of actions undertaken during a person's lifetime. Many of the major diseases affecting mankind, particularly CRD, are epigenetically programmed in early life (22, 23). The most effective way of achieving AHA is prevention. Allergic diseases start early in life and are the cause of many chronic and debilitating conditions that may be preventable. Understanding the mechanisms that lead from an acute allergic reaction to chronic inflammation, monitoring disease progression through registries, defining disease phenotypes and translating the knowledge achieved at the molecular level into clinical tools are all key actions that should be taken to provide the opportunity of healthy ageing to a large proportion of European citizens, especially those who are more susceptible not to achieve it. For this purpose, treatments with the potential to cure, such as allergen-specific immunotherapy (24), need to be promoted.

In a recent Position Paper, generated by more than 150 European experts, EAACI, the largest worldwide professional organization in the field, identified a number of key areas requiring the intensification of research efforts. Such focus will help reduce the burden of allergic disease, alleviate millions of Europeans and establish the basis for their healthy ageing (25).

The role of patients' organizations in the fight against chronic respiratory diseases and allergy

Susanna Palkonen

The European Federation of Allergy and Airways Diseases Patients' Associations (EFA) is a nonprofit network of allergy, asthma and COPD patients' organizations, representing 35 national associations in 22 European countries and over 400,000 patients. EFA is dedicated to making Europe a place where people have the right to best quality of care and a safe environment, to live uncompromised lives and to be empowered. EFA represents patients for a constructive participation in EU policies. It disseminates EU policy developments to all member associations, shares best practices and tries to develop EU guidelines on the disease areas covered. EFA represents patients in EU-funded research and health projects and also runs its own projects (26).

Particular emphasis will be put on EFA's activity in the EU reflection process on NCDs, the advocacy for an EU action plan on allergy and respiratory diseases and a general EU strategy on NCDs (27). EFA's efforts to fight against CRD and allergy are enhanced by their own funded projects, such as the following: (i) the COPD project that aims at promoting public awareness of COPD in Europe (28), (ii) the Allergy Awareness Project whose aim is to raise awareness of respiratory allergies such as serious NCD, to strengthen diagnosis and to encourage European guidance on appropriate management and control of exacerbations (29), and (iii) the Oxygen Harmonization Project that promotes oxygen available at all times in commercial airlines and free of charge for those in need.

The GA²LEN pan-European sentinel network for allergy and asthma

Torsten Zuberbier

The Global Allergy and Asthma European Network (GA²LEN), created under the 6th EU Framework Programme, is funded by FP6 (30–32). Several studies have been initiated and revealed surprisingly high dynamics in a change in eliciting allergens, for example, birch pollen becoming increasingly more important in southern Europe.

GA²LEN centres are not only restricted to the surveillance of inhalant allergens but are also active in detecting novel allergens recently introduced into the EU, such as a processed wheat protein resulting in severe anaphylaxis (33, 34).

This surveillance network has assisted EU cities (Vienna and Berlin) to develop proactive tactical steps in counteracting new trends in pollen allergy.

With changes in allergens observed not only in inhalant allergens but also in contact allergy with food, a systematic surveillance of allergy trends, as well as an early alert system for the detection of novel allergens, would prove highly beneficial for the EU population and policy makers. The existing GA²LEN infrastructure of more than 100 centres covering all areas of the EU is in place to guarantee this work.

Allergy and asthma in schools

Angelos Neou

At least one quarter of European schoolchildren are now affected by allergic diseases (35). They pose an important socio-economic risk because uncontrolled patients often have diminished cognitive functions and a reduction in school performance (35, 36). Untreated children with allergic rhinitis symptoms have a 40% chance of dropping a grade when suffering from symptoms during examinations (often held in the summer during the peak grass pollen season) and are 70% more likely to drop a grade if taking sedating over-the-counter oral H1-antihistamines (37). Based on the current evidence, it is vital to identify untreated patients as early as possible during their school years. Studies should assess the impact of allergens on school performance and the benefits of an optimal treatment of allergic symptoms (30, 32). Based on the results of pilot

projects, an educational programme for schoolchildren, families, caregivers and school staff could be developed for all European countries in close collaboration with all stakeholders.

European Innovation Partnership on Active and Healthy Ageing (EIP on AHA)

Jorge Pinto Antunes

The European Commission has identified active and healthy ageing as a major societal challenge common to all European countries and an area that presents considerable potential for Europe to lead the world in providing innovative responses to this challenge.

Staying healthy and active as we grow older is a key aspect in tackling the challenge of ageing. My presentation focused on the European Innovation Partnership on Active and Healthy Ageing. I have detailed how the commission expects to facilitate the achievement of the overarching target of this partnership to increase the average healthy lifespan by two years by 2020.

Six Action Plans have recently been agreed with EIP partners, setting out the concrete actions to be undertaken between now and 2015 to improve the quality of life of four million European senior citizens:

- Better prescription and adherence through communication and patient empowerment, improvements in the healthcare system and more research and methodology on ageing and adherence.
- Launching/scaling up operational programmes for the early diagnosis and prevention of falls in at least 10 European countries.
- Developing and implementing sustainable interventions for the prevention and comprehensive management of functional/cognitive decline and frailty that will reach at least 1,000 care providers.
- Deploying integrated care for chronic diseases to meet the needs of older persons and enhance system efficiency, focusing on e-care records, ICT and teleservices, through a European Integrated Care Collaboration.
- Promoting solutions for independent living by gathering information, developing reports, guidelines, recommendations and best practice.
- Implementing innovative age friendly practices at regional and local level and fostering physical/environmental innovation and practice, including the use of ICT.

Reference sites

Fifty-four organizations have applied to be candidate Reference sites to showcase and exchange best practices that implement elements from a substantial number of the 6 specific actions in an integrated way. The candidates include regions, cities, integrated hospitals or care organizations that are able to give evidence and concrete illustrations of their impact.

Once announced, Reference sites will provide the EIP on AHA and its stakeholders with examples of a comprehensive,

innovation-based approach to active and healthy ageing. They will 'twin' themselves with other regions that wish to learn from them to set up a similar project or scale up a current project.

The presentation also reported on how the partnership brought together key stakeholders (end users, public authorities, industry), in the innovation cycle, with a view to identify and overcome potential innovation barriers and mobilize instruments.

Conclusions and recommendations

This event at the European Parliament is in line with the reflection process on NCDs, carried out by the EU MS and the Commission upon the request of the EU Council Conclusions on 'Innovative approaches for chronic diseases in public health and healthcare systems' (38). This strategy includes disease-specific best practices and national programmes and will tackle their incidence, the determining risk factors, the negative consequences for the health of affected people and their families and EU and MS economies. All stakeholders and patients' organizations should be involved. The current debate will be followed by practical, feasible and achievable projects, demonstrating the strength of EU political action in the field. Four projects will be initiated from this debate:

- 1 A meeting sponsored by the Région Languedoc-Roussillon in Montpellier as a scaling up proposal of the EIP-AHA (Action Plan B3: integrated care for chronic diseases): developmental origins of chronic diseases and ageing: from research to policies and value creation.
- 2 Prevention of Asthma, Prevention of Allergy (PAPA) led by the WHO Collaborating Centre for Asthma and Rhinitis (CHRU Montpellier): this project is sponsored by EAACI, EFA, IPCRG and SLaa, among others.
- 3 GA²LEN sentinel network.
- 4 To define a few priority research projects for their consideration by Horizon 2020.

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Conflict of interest

JB has received honoraria for scientific and advisory boards, lectures during meetings and press conferences from Actelion, Almirall, AstraZeneca, Chiesi, GSK, Meda, Merck, MSD, Novartis, OM Pharma, Sanofi-Aventis, Schering Plough, Stallergènes, Teva, Uriach. He is a board member of Stallergènes. SP is a member of the GSK Health Advisory Board and receives reimbursement of travel expenses and accommodation. NGP has received payment for consultancy from ABBOTT, Novartis and Menarini; for lectures from MSD, URIACH, GSK, ALLERGOPHARMA and Stallergens; for development of educational presentations from MSD, URIACH and MEDA; and grants from Nestle, MSD and Deviblis. TZ: Industry consulting, research grants and/or honoraria. Consulting with the following companies: Ansell,

Bayer Schering, DST, Fujisawa, HAL, Henkel, Kryolan, Leti, MSD, Novartis, Procter and Gamble, Sanofi-Aventis, Schering Plough, Stallergènes, UCB. Organizational affiliations: Scientific Advisory Board, German Society for Allergy and Clinical Immunology; Expert Commission "Novel Food" of the German Federal Ministry of Consumer Protection; Head, European Centre for Allergy Research Foundation (ECARF); Committee member, WHO-Initiative Allergic Rhinitis and its Impact on Asthma (ARIA); Member, World Allergy Organisation Communications Council; Secretary General, Global Allergy and Asthma European Network (GA²LEN). CCT, BS, PY, JMA, FB, AN, JPA and TC declare no conflict of interest.

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