

CONSENSUS DOCUMENT

Open Access



The importance of allergic disease in public health: an iCAALL statement

Mario Sánchez-Borges^{1*}, Bryan L. Martin², Antonella M. Muraro³, Robert A. Wood⁴, Ioana O. Agache⁵, Ignacio J. Ansotegui⁶, Thomas B. Casale⁷, Thomas A. Fleisher⁸, Peter W. Hellings⁹, Nikolaos G. Papadopoulos¹⁰, David B. Peden¹¹, James L. Sublett¹², Stephen A. Tilles¹³ and Lanny Rosenwasser¹⁴

Introduction

Allergic diseases constitute a significant cause of morbidity worldwide and a considerable burden on the health and medical systems of both developed and emerging economies. Allergies and related diseases including asthma, rhinosinusitis, atopic dermatitis and life threatening food, drug, and stinging insect allergies affect at least 30% of the population and nearly 80% of families. According to recent studies, their prevalence is increasing globally [1–4].

Medical services providing expert allergy care are lacking in many countries; therefore, the major organizations devoted to the field of allergy (American Academy of Allergy, Asthma and Immunology, AAAAI; American College of Allergy, Asthma, and Immunology, ACAAI; European Academy of Allergy, Asthma and Clinical Immunology, EAACI; and the World Allergy Organization, WAO), strongly feel that education of health professionals and the public on the importance and impact of allergic diseases as a public health concern should be encouraged.

The International Collaboration in Allergy, Asthma, and Immunology (iCAALL), a partnership constituted by AAAAI, ACAAI, EAACI, and WAO, have recommended publishing an advocacy statement with the purpose of calling to the attention of the medical community, health authorities and the public in general, the major impact and relevance of the allergy specialists as key groups of professionals specifically trained for the adequate diagnosis, treatment, and prevention of allergic diseases.

Allergic diseases are often underdiagnosed and undertreated

Allergy is a rather “new” medical specialty, having only emerged with increased awareness of immunologic responses and the increasing importance of non-communicable diseases. However, in spite of being a major global public health issue, the public and the health establishment have generally not recognized the importance of allergic diseases. Since the prevalence of allergic diseases has been steadily increasing, it is time to place the field of allergy in a more prominent place within global medical organizations.

This absence of proper recognition frequently results in a lack of, or incorrect, diagnosis resulting in sub-optimal disease management, negative effects on quality of life, increased morbidity and mortality, and considerable additional direct and indirect costs. Moreover, the complexity and involvement of multiple organs and systems of allergic diseases confounds management in fragmented care based on our current health care delivery systems dependent on traditional organ-based specialists.

Unmet needs in allergic care

In most populations around the world there is a lack of adequate education on the definition, etiology, pathogenesis, proper therapies, and prevention of allergic diseases. Awareness of the morbidity and potential mortality associated with allergic diseases, the chronic nature of those conditions, and the importance of consulting a physician knowledgeable in allergic diseases, asthma and clinical immunology are often lacking. This translates into patients with allergic diseases not being managed by physicians with the necessary training and skills in the appropriate use of efficacious medications required for optimal management.

There is an increasing need to expand the number of allergy/clinical immunology specialists as well as local and regional diagnostic and treatment centers in order to facilitate timely referrals for patients with complex

* Correspondence: sanchezbmario@gmail.com

¹Allergy and Clinical Immunology Department, Centro Medico Docente La Trinidad, Allergy Service, Clinica El Avila, 6a. Transversal Urb. Altamira, Piso 8, Consultorio 803, Caracas 1060, Venezuela

Full list of author information is available at the end of the article



allergic diseases. A goal should be established to guarantee the universal accessibility to affordable and cost-effective therapies as well as novel medications used in the management of allergic diseases.

Presently, there are millions of people worldwide who do not have access to care by specialists in allergy [1]. Moreover, epinephrine auto-injectors, some drugs for severe asthma, allergen-specific immunotherapy, and some drugs for adverse reactions to biologicals and chemotherapeutic agents in desensitization centers are not available in many parts of the world.

Public health officers should provide for optimal allergy/clinical immunology services, including access to specialists and diagnostic and treatment centers. Allergists should be able to prescribe the most cost-effective medications to manage the specific clinical findings of each allergic patient.

Consultations with allergists to assure correct diagnosis and treatment are indispensable to improve long-term patient outcomes and their quality of life and reduce the unnecessary additional direct and indirect costs passed on to the patient, payer and society.

In the last decade there have been important advances in the field of allergy, especially in the understanding of the mechanisms leading to disease, improved diagnostic methods based in molecular allergy, and novel medications for immune modulation and immunotherapy based in more effective and safe vaccines and biologicals [5–9].

What can be done to improve the current situation?

Advocacy from these professional organizations on the role of allergy in public health has been identified as the most important objective of iCAALL. Increasing awareness on the relevance of allergic diseases as a major public health problem could lead to a better recognition by governments and health authorities.

Programs to increase awareness of allergic diseases should focus on the causes, prevention, control, and economic impact. The main goal would be better care of allergic diseases around the world with the aim to effectively engage regional, country, and local authorities.

An important step forward supported by the major allergy organizations resides in current efforts to obtain World Health Organization (WHO) recognition of allergy through the new nomenclature of allergic diseases included in the ICD-11 classification of diseases [10, 11].

Because allergic diseases are systemic multi-organ diseases, allergists are in the best position to diagnose and manage the allergic patient, in contrast to the classic organ-based approach of most other medical specialties. Allergic disease management by allergists based on the new technological advancements could be more efficacious and cost-effective when compared to the care provided by generalists or other specialists.

In addition, allergists have significant experience in the implementation of preventive measures which have been shown to diminish or eliminate allergic symptoms, including environmental control measures and allergen-specific immunotherapy, which could reduce the costs of disease management.

Focus on the patient

Educational efforts focused on allergic diseases should be specifically directed to patients and their families as the final targets of these awareness programs. In order to obtain better results regarding disease prevention and control, it will be strictly necessary to reach the community at various levels, including regional, local, and state agencies as well as schools and patient organizations with straight forward and understandable messaging.

At the same time, approaching governments, politicians and public health officers should be part of the strategy in order to promote the allocation of sufficient resources for the diagnosis, control, treatment and prevention of allergic diseases.

Notes This is a Joint Statement by the organizations of the International Collaboration on Allergy Asthma and Immunology (iCAALL): American Academy of Allergy Asthma and Immunology (AAAAI), represented by Robert Wood, Thomas Casale, Thomas Fleisher, David Peden); American College of Allergy Asthma and Immunology (ACAAI), represented by Bryan Martin, James L Sublett, Stephen A Tilles; European Academy of Allergy Asthma and Clinical Immunology (EAACI), represented by Antonella Muraro, Ioana Agache, Peter Hellings, Nikos Papadopoulos; World Allergy Organization (WAO), represented by Mario Sánchez-Borges, Ignacio J Ansotegui, Lanny Rosenwasser. Published on behalf of AAAAI, ACAAI, EAACI, and WAO.

Abbreviations

iCAALL: International Collaboration in Allergy Asthma and Immunology

Authors' contributions

The iCAALL Task Force on Advocacy proposed this project. MSB and AM developed the first draft of this document for the iCAALL Steering Committee 2017: MSB, BM, AM, RW, IA, IA, TC, TF, PH, NP, DP, JLS, SAT, LR all contributed equally to its development. All authors read and approved the final manuscript.

Ethics approval and consent to participate

Not applicable.

Competing interests

The authors declare that they have no competing interests.

Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Author details

¹Allergy and Clinical Immunology Department, Centro Medico Docente La Trinidad, Allergy Service, Clínica El Avila, 6a. Transversal Urb. Altamira, Piso 8,

Consultorio 803, Caracas 1060, Venezuela. ²Ohio State University, Powell, OH, USA. ³Padua University Hospital, Padua, Italy. ⁴Johns Hopkins University, Baltimore, MD, USA. ⁵Spitalul Judetena Brasov, Brasov, Romania. ⁶Hospital Quirónsalud Bizkaia, Bilbao, Spain. ⁷University of South Florida Morsani College of Medicine, Tampa, FL, USA. ⁸National Institutes of Health, Bethesda, MD, USA. ⁹KU Leuven, Leuven, Belgium. ¹⁰University of Athens, Athens, Greece. ¹¹University of North Carolina, Chapel Hill, NC, USA. ¹²Family Allergy and Asthma, Louisville, KY, USA. ¹³Northwest Asthma and Allergy Center, Redmond, WA, USA. ¹⁴University of Missouri School of Medicine, Kansas City, MO, USA.

Received: 23 April 2018 Accepted: 23 April 2018

Published online: 27 April 2018

References

1. Asher MI, Montefort S, Björkstén B, Lai CK, Strachan DP, Weiland SK, Williams H, ISAAC Phase Three Study Group. Worldwide time trends in the prevalence of symptoms of asthma, allergic rhinoconjunctivitis, and eczema in childhood: ISAAC phases one and three repeat multicountry cross-sectional surveys. *Lancet*. 2006;368(9537):733–43.
2. Björkstén B, Clayton T, Ellwood P, Stewart A, Strachan D, ISAAC Phase III Study Group. Worldwide time trends for symptoms of rhinitis and conjunctivitis: phase III of the inter-national study of asthma and allergies in childhood. *Pediatr Allergy Immunol*. 2008;19(2):110–24.
3. Pawankar R, Holgate ST, Canonica GW, Lockey RT, Blaiss MS, editors. WAO White Book on Allergy Update 2013. World Allergy Organization; 2013. p. 11–9.
4. Prescott SL, Pawankar R, Allen KJ, Campbell DE, Sinn JK, Fiocchi A, Ebisawa M, Sampson HA, Beyer K, Lee BW. A global survey of changing patterns of food allergy burden in children. *World Allergy Organ J*. 2013;6(1):21.
5. Canonica GW, Ansotegui IJ, Pawankar R, Schmid-Grendelmeier P, van Hage M, Baena-Cagnani CE, Melioli G, Nunes C, Passalacqua G, Rosenwasser L, Sampson H, Sastre J, Bousquet J, Zuberbier T, WAO-ARIA-GA2LEN Task Force, Allen K, Asero R, Bohle B, Cox L, de Blay F, Ebisawa M, Maximiliano-Gomez R, Gonzalez-Diaz S, Hahtela T, Holgate S, Jakob T, Larche M, Matricardi PM, Oppenheimer J, Poulsen LK, Renz HE, Rosario N, Rothenberg M, Sanchez-Borges M, Scala E, Valenta R. A WAO - ARIA - GA²LEN consensus document on molecular-based allergy diagnostics. *World Allergy Organ J*. 2013;6(1):17.
6. Wood RA. New horizons in allergen immunotherapy. *J Am Med Assoc*. 2016;315(16):1711–2.
7. Burks AW, Calderon MA, Casale T, Cox L, Demoly P, Jutel M, Nelson H, Akdis CA. Update on allergy immunotherapy: American Academy of Allergy, Asthma & Immunology/ European academy of allergy and clinical immunology/PRACTALL consensus report. *J Allergy Clin Immunol*. 2013; 131(5):1288–96. e3.
8. Mitchell PD, El-Gammal AI, O'Byrne PM. Emerging monoclonal antibodies as targeted innovative therapeutic approaches to asthma. *Clin Pharmacol Ther*. 2016;99(1):38–48.
9. Jutel M, Agache I, Bonini S, Burks AW, Calderon M, Canonica W, Cox L, Demoly P, Frew AJ, O'Hehir R, Kleine-Tebbe J, Muraro A, Lack G, Larenas D, Levin M, Nelson H, Pawankar R, Pfaar O, van Ree R, Sampson H, Santos AF, Du Toit G, Werfel T, Gerth van Wijk R, Zhang L, Akdis CA. International consensus on allergy immunotherapy. *J Allergy Clin Immunol*. 2015;136(3): 556–68.
10. Tanno LK, Calderon MA, Demoly P. Joint allergy academies. New allergic and Hypersensitivity conditions section in the international classification of Diseases-11. *Allergy Asthma Immunol Res*. 2016;8(4):383–8.
11. Tanno LK, Calderon MA, Papadopoulos NG, Sanchez-Borges M, Moon HB, Sisul JC, Jares EJ, Sublett JL, Casale T, Demoly P. Joint allergy academies. Surveying the new allergic and hypersensitivity conditions chapter of the international classification of diseases (ICD)-11. *Allergy*. 2016;71(9):1235–40. <https://doi.org/10.1111/all.12945>.

Ready to submit your research? Choose BMC and benefit from:

- fast, convenient online submission
- thorough peer review by experienced researchers in your field
- rapid publication on acceptance
- support for research data, including large and complex data types
- gold Open Access which fosters wider collaboration and increased citations
- maximum visibility for your research: over 100M website views per year

At BMC, research is always in progress.

Learn more biomedcentral.com/submissions

