

Allergic diseases: a global public health issue

Interview with Ruby Pawankar

What is the World Allergy Organization mission?

The World Allergy Organization (WAO) is a federation of allergy societies from 89 countries worldwide with a reach to over 45,000 physicians. Our mission is to be a global resource for education, training, research and advocacy in the field of allergy, asthma and clinical immunology. To this end, we conduct various activities to support the global allergy community and to help address allergies and asthma as a global public health problem.

When was the WAO established, and what are some notable achievements?

The WAO was established in 1951, in its first incarnation as the International Association of Allergology and Clinical Immunology (IAACI). Its main purpose then, was to organize medical conferences; however, its role has since expanded to encompass a broader remit of scientific education, research and outreach.

The biennial WAO World Allergy Congress (WAC) attracts thousands of experts and scientists in the fields of allergy, asthma, immunology and related fields. And most recently we also host theme-based conferences – the WAO International Scientific Conference (WISC) – the second of which will take place in Hyderabad, India, in December, 2012. Augmenting these major pillars of the WAO's education programs, a series of evidence-based online lectures for medical students and physicians explores the basic immunological mechanisms underlying allergic diseases; these help to explain the rationale underlying various immunotherapeutic strategies and aid diagnosis and treatment. WAO educational initiatives also include WAO Allergy Training Schools (WATS) that provide hands-on training in best practices for allergy and asthma

“Allergic diseases cannot be trivialized as they not only impair the quality of life and morbidity but also can be fatal”

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management, as well as joint programs with member societies to host lectures and symposia. The WAO also contributes to developing curricula and materials in different languages for postgraduate and undergraduate training in universities and medical schools. In line with this, we also sponsor fellowships and international travel grants. The WAO is also committed to providing patient-focused information to improve understanding of treatment and adherence.

WAO also publishes consensus documents, for example, the *Diagnosis and Rationale for Action against Cow's Milk Allergy (DRACMA)* guidelines, *Guidelines for the Assessment and Management of Anaphylaxis*, and others. The WAO has also published papers on diverse topics including hereditary angioedema, biodiversity, climate change, drug allergy, and urticaria. Our current flagship advocacy initiative is the *White Book on Allergy*, which was launched in March 2011. This landmark document is intended to provide physicians, health authorities, policy makers and the lay public with a greater understanding of the burden, risk factors, diagnosis, management and unmet needs of various allergic diseases. The *White Book on Allergy* presents data from surveys in 63 WAO member countries that provide extensive information on their current status and needs. These responses lie at the heart of the main WAO recommendations, which cover six important aspects: epidemiological studies of allergic diseases; allergens and environmental pollutants; availability of allergy, asthma and clinical immunology services (allergists) and appropriate medications; undergraduate and postgraduate education for primary care physicians and pediatricians; recognition of the specialty and training programs;

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and public awareness of allergy, asthma, and clinical immunology. WAO also stresses the importance of food labeling to support ongoing engagement with health ministries to increase understanding and awareness that food labeling is not a mere legality, but rather a safety issue.

How do food allergies rank in importance as a cause of global allergic disease?

A gap between data from surveys and those from diagnostic tests has given rise to some uncertainty about interpreting the epidemiologic evidence. Furthermore, because the statistical prevalence of allergy has been based on limited numbers of patients, it is unknown to what extent this applies at the population level. Nonetheless, data from the *White Book on Allergy* suggest that food allergies may affect 200–250 million people globally. The unremitting increase in prevalence brings greater risk of morbidity because symptoms of severe allergy can be acute and immediate, such as anaphylaxis; in these cases, allergy really may be a matter of life and death.

Can you elaborate about the most serious short-term and long-term health consequences of food allergies in children?

As I mentioned, an immediate consequence of food allergy, is the possibility of anaphylactic shock, which is acute and may be fatal. Having a food allergy can also significantly impair quality of life; one study concluded that patients with food allergy may have poorer quality of life than those with diabetes.

Long-term effects arise from comorbid conditions associated with food allergy. For example, food allergy has been linked with asthma exacerbation, which in turn reduces individual productivity. It therefore becomes important to understand the health-economic implications of food allergy, and the potential of investment in nutrition and education as a cost-effective means of counteracting the adverse short-term and long-term consequences.

How much of a problem is cow milk allergy relative to other food allergies, and what are its special distinguishing features?

The WAO considers cow milk allergy to be a very important, especially given that it affects individuals very early in life, which is why we put

such great effort into publishing the DRACMA guidelines. However, in non-European countries egg has been reported as the major food allergen in the first year of life. Patterns of food allergy change with age and studies show that peanut and wheat become more prominent triggers later as children grow older.

Are there any other influential factors for the development of food allergy?

Although there is no conclusive evidence that changes in diet can induce allergy symptoms, I think that the way foods are prepared, including the additives and chemical treatments, may play a role in food allergy. For now, the subject remains a ‘black box’, beyond our understanding. However, it does appear that as Asians embrace a more westernized lifestyle, including increased consumption of wheat and convenience foods, they tend to develop more allergies. Years ago, there were a few reports of monosensitization to ragweed, house dust mites, birch, or cyprus, but today, many patients have hypersensitivity to multiple plant and animal allergens. Polysensitization is a universal phenomenon that can also occur with food allergies. Individuals may suddenly develop allergies to various food proteins that they could tolerate before to re-exposure. Although this emerging concept may help us to understand food allergy, it remains to be validated by further research.

Studying the effect of environmental factors on allergic disease is difficult, because it is not feasible to switch the study cohort from one environment to another. For this reason, data from allergy studies conducted in developing countries are important, since they may help to explain the increased allergy risk of migrants from developing to urbanized habitats. Such studies may provide a window of opportunity to design evidence-based strategies for preventing allergic diseases. Genetic predisposition also has a significant influence; for example, children of Asian parentage who are born in Australia are more likely to develop food allergies than children with Caucasian ancestry.

What are the latest clinical evidence and advances in treating cow milk allergies?

For children who are not breastfed, the WAO guidelines recommend amino-acid-based milk formula as the treatment of choice for infants with severe cases of cow milk allergy or those susceptible

to anaphylactic reactions. Extensively hydrolyzed formula is recommended for less severe cases of cow milk allergy, and those who have eczema or gastric disturbances. However, if the cost of treatment is a barrier to compliance, soy formulas are an alternative.

What are the best practices for preventing and early intervention in food allergy?

Using either extensively or partially hydrolyzed infant formulas can reduce the risk of food allergy developing. Extensively hydrolyzed formula has a greater protective effect than partially hydrolyzed formula, but is much more expensive. WAO endorses the World Health Organization policy of weaning infants to complementary foods at 6 months, with the possible exception of developed countries, where weaning can be proposed earlier as per European Society for Paediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN) guidelines.

How can physicians in the Asia-Pacific region best help to curb the rising trend in allergic disease?

By participating in WAO activities and lobbying their respective governments to make necessary changes, physicians can help to raise awareness of this disease area as an important public health problem and move the creation of health guidelines and policies, particularly on food labeling, up the political agenda.

It is also important to devise strategies to make treatments more accessible and affordable to the public. Patient education, particularly on the proper use of steroids, will help to dispel widespread misconceptions about this medication.

At present, we lack epidemiological data on the true status of food allergy in the region. In carrying out future studies, it will be essential to foster doctor-patient partnerships and support advocacy on preventing allergies. Organizing patient programs and support groups to disseminate disease information may also help to address the rising trend of allergic disease.

Are there any final thoughts you would like to add?

Just to reiterate that allergies and asthma, including food-induced anaphylaxis, are truly reaching epidemic proportions in both developed and developing regions; we must act now, without delay! The WAO and its member societies are calling for governments to priorities these health issues before they become uncontrollable. We know that countries with rising prevalence of allergies are the very same ones dealing with communicable diseases and infections, and believe that it is important to pay equal attention to both communicable and non-communicable diseases before it is too late. Recognizing that allergies may affect several organs at once, we need to devise multidisciplinary treatment platforms, for example, pediatrics, gastroenterology and cardiology, and interventions to control trigger factors. Lastly, the key stakeholders including learned societies, academicians, clinicians, patients and the general public should always keep an open mind and work together towards one goal; that is, to provide the best possible care and improve quality of life for patients suffering from the consequences of allergies.