

Editorial

Asthma and allergy – a global perspective

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A global perspective on the burden and impact of a disease is generally obtained from mortality and morbidity statistics. Viewed in this way, asthma and allergy do not rank high amongst causes of death and disability – in 2001 asthma was in only 25th position as a cause of disability-adjusted life years (1). However, their prevalence, impact upon quality of life and healthcare expenditure provide a more complete and relevant indication of their significance. This also matches the perception of primary care physicians for whom the management of these conditions represents a significant component of their work. It is estimated that together these diseases affect in excess of 700 million people (2). From the perspective of advocacy, resource allocation and prioritization in health services, the relatively low mortality from these conditions militates against their prominence, particularly in resource poor countries, and in many developing countries there is scant, if any, co-ordinated attempt to address these diseases or to make available the drugs required to do so. It is therefore encouraging to note the inclusion of asthma and allergy and the involvement of professional societies that represent allergology in the recently launched Global Alliance Against Respiratory Diseases (GARD) initiative. The mission of GARD, as outlined in the executive summary of Bousquet et al. (2) in this issue, is to develop what it terms an 'enabling environment' for sustained action to address chronic respiratory diseases including allergy throughout the world. The strategy of individual global initiatives, the Global Initiative for Allergic Rhinitis and Asthma (ARIA), the Global Initiative Against Asthma (GINA), the Global Initiative Against Obstructive Lung

Disease (GOLD), and more than 35 other professional, governmental and patient organizations joining forces is a sound one and has many advantages. Addressing health needs in 'silos' or as vertical programmes leads to competition between diseases for recognition, confuses the public and health authorities, and fails to harness the power of united effort. While the highly specialized disease-orientated approach has advantages in well-developed and resource-rich settings, in primary care, and particularly in developing countries, this approach has many disadvantages and is not a viable option for addressing health needs. Firstly, the agenda in such services becomes dominated by priority programmes like HIV/AIDS, tuberculosis and pneumonia. Secondly there is diminished likelihood of such diseases being diagnosed, as the clinic programmes are designed and orientated towards the diagnoses for which treatment provision have been made. These problems are recognized in the GARD approach, which calls for an integrated approach to chronic respiratory disease that recognizes their inter-relatedness and the need for integrated programmes of prevention and control. The purpose of GARD is to co-ordinate existing governmental and non-governmental programmes to avoid duplication of effort and promote sharing of human and financial resources as well as technical expertise with a particular emphasis on the needs of developing countries and deprived populations (2). Wisely, GARD recognizes that programmes of care have to be tailored to the widely differing needs of local communities, that are governed by the mix of communicable and non-communicable diseases, economic resource limitations and the organization of health

services. While the advocacy and co-ordination may be global, delivery of care is a local matter requiring workable programmes and access to carers, drugs and other medical resources. However, viewed from every perspective, the formation of GARD, under the auspices of the World Health Organisation (WHO) is a landmark event which for the first time demonstrates the united purpose of a large number of role players to address chronic respiratory disease, and a unique opportunity to raise the profile of these diseases and focus efforts upon addressing them.

Obvious practice-related reasons for a combined approach are that many respiratory diseases, like asthma and AR are closely related, commonly co-exist and, may be best addressed with a common treatment approach. In this issue of the journal, Camargos et al. (3) provide an example of an innovative approach to the management of concurrent ARIA that might be of particularly value in resource-poor settings. Their small, proof-of-concept study provides evidence that a moderate dose of fluticasone inhaled transnasally provides at least equivalent efficacy as the same dose inhaled through the mouth, but, not surprisingly, with a considerably greater benefit for symptoms of AR. As the authors point out this treatment is more convenient and has the potential for improving compliance and reducing costs. Further research is necessary to ensure that asthma care will not be compromised in patients with more severe disease.

The different profiles of allergy across the globe are well illustrated in the papers by Migliore et al. (4) and Pekkarinen et al. (5) in this issue. Migliore et al (4) remind us of the large international variation in the prevalence of asthma and allergic diseases, and the role that 'westernization' plays in the development of disease. These trends are evident not only in global studies like those performed using the International Study of Asthma and Allergies in Childhood (ISAAC) methodology (6), but also within countries (4) and even cities (7). Migliore et al (6) report a lower prevalence of self-reported asthma and current wheeze among children born abroad than in those born in Italy, an effect which reduced after 5-years residence in Italy, suggesting that such differences are not determined by genetic or early life events, but rather of environmental origin. Furthermore, the prevalence of self-reported asthma differed according to the country of origin of children, reflecting the range of prevalences in these countries. However, underdiagnosis or misdiagnosis in their countries of origin might also explain these differences.

Such broad-brush analyses of country and regional differences can be further refined by examining socio-economic factors like lifestyle and domestic exposures. In many countries a component of westernization is urbanization. An increasing prevalence of allergic diseases among children living in or migrating to cities is a well described in studies from Africa (8, 9), India (10) and Southeast Asia (11). However, urbanization is associated

with a mix of exposures, some potential increasing and others reducing the risk of developing an allergic disease. Social deprivation and over-crowding may increase exposures to communicable diseases, domestic allergens like house-dust mite and cockroaches, domestic and atmospheric pollution and emissions from vehicular traffic. Within urban communities the net impact these exposures appears to vary according to socioeconomic status (7). The greatest risk of developing atopy and asthma is among children with the highest standard of living while exposure to general urban deprivation and pollution is associated with an increased risk of respiratory symptoms and infections but a more modest increase in allergic diseases (7). However, allergic diseases in the setting of urban poverty may be more severe and result in greater morbidity and mortality owing to poor access to care, unavailability of medication and problems with adherence and risk avoidance.

Comparisons of the prevalence of allergic diseases in different countries and communities relies on the use of standardized questionnaire-based methodologies like ISAAC. However, the use of such instruments is subject to bias caused by differences in language and cultural differences in understanding of the significance of symptoms. Furthermore, a prevalence of symptoms in different regions does not mean that other aspects of asthma (the phenotype) of asthma are identical. In this issue of the journal, Pekkarinen et al. (5) report phenotypic differences in asthma between children in Finland and children from Russian Karelia, manifest as an inconsistent correlation between skin prick tests and serological markers of allergy, and symptoms(5). This illustrates the heterogeneity of symptom-defined asthma and rhinitis and the importance of not assuming the value of a diagnostic test based on information obtained in other populations.

The need for local adaptation of health interventions for different countries of the world and even for different communities within countries is recognized in the GARD manifesto (2). The specific objectives set by GARD for developing countries in relation to allergy are surveillance, identification of risk factors, prevention and management. With respect to asthma, which is accepted as underdiagnosed, and under-treated in most countries, and particularly in children, GARD proposes country-based action plans and the development of demonstration programmes tailored to the priority needs, health services and resources of that country. In resource poor areas it proposes models like the Practical Approach to Lung Health (PAL) model (12), and for those with a high burden of communicable diseases including HIV, the PALSA (Practical Approach to Lung Health in South Africa) approach. The latter is described in the Commentary by English et al. (13) in this issue of the journal. The authors describe how, before its introduction, asthma and allergic diseases received little attention within the public (state) sector primary care clinics in rural areas, and use of inhaled corticosteroids and other

asthma controller therapy was at very low levels and limited to patients fortunate enough to be assessed and treated at specialist-level hospital clinics. Provision for treatment of AR and other diseases was minimal and the emphasis in the management of asthma was on crisis management of exacerbations, and use of oral bronchodilators. Introducing PALSA was shown to improve the recognition and management of both asthma and rhinitis (14).

Although much still needs to be performed before management of allergic diseases can be called acceptable in developing countries, PALSA represents an encouraging start and one that can be applied in other regions facing similar obstacles. It supports the GARD proposal that, at least in primary care, allergic diseases may be better managed alongside other chronic respiratory diseases within a locally adapted integrated diagnostic and management plan.

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