CONTROL OF ASTHMA IN CHILDREN

Robin J Green, *PhD, DSc*
Department of Paediatrics and Child Health, University of Pretoria

Correspondence:
Robin Green, email: robin.green@up.ac.za


Prof Robin Green

INTRODUCTION

I have had an interest in the control of asthma in children since the early 1990's. In those early years I documented, for the first time in South Africa, the significant lack of asthma and allergic rhinitis control in South African children.[1-3] These studies suggest that, like surveys from the rest of the world, asthma control is seriously under-estimated and neglected in all asthmatics in South Africa, in both the privileged and the under-privileged.

My research has a unique perspective, conferred by the fact that atopic respiratory disease and HIV-related chest illnesses, do not occur to the same extent anywhere else in the world. Atopic respiratory conditions and HIV-related lung diseases occur side by side in abundance in this region. This perspective has created a clarity for research to address the two most important aims in clinical medicine, namely to diagnose correctly and then to manage the condition so that control is achieved. These must be universal principles of the successful practice of medicine.

MY RESEARCH

As my interest in control of asthma and other atopic conditions began, aiming for control of atopic respiratory conditions, asthma and allergic rhinitis, began to define my research ideas. Defining asthma and allergic rhinitis control in South Africa followed from an attempt to determine reasons for poor asthma and allergic rhinitis control and explored the patients presenting to my own private practice. One reason uncovered was that of delay in asthma diagnosis.[1] Whilst the missed opportunities to diagnose asthma are evident at all ages, this problem stems from childhood where a great number of children are poorly defined in terms of recurrent asthma symptoms and consequently are poorly treated. When asthma is not diagnosed, inappropriate therapy is likely to follow and quite clearly significant morbidity is likely to ensue. Allergic rhinitis is, like asthma, poorly diagnosed in childhood and clearly this phenomenon leads to poor overall control of, not only the nasal disease, but also of the co-existing asthma.[2]

In subsequent years I was provided with the opportunity, as Chairman of the National Asthma Education Programme, to investigate asthma control in rural South Africans. Attempts to define asthma control in the poorest arm of South Africa's population, namely rural asthmatics, was investigated.[3] This group of individuals would normally have difficulty accessing asthma services and therapies and many of the drugs suggested in guidelines would be unavailable. A similar, but interestingly no worse, scenario of asthma control exists in this population group. It was clear by the early 2000's that a picture of poor asthma control was emerging in South Africa. These studies were the first to tie South Africa to the world in suggesting that asthma control has been seriously neglected as a public health concern. In South Africa this issue is often explained away by talk of more pressing health concerns of infectious diseases; HIV and tuberculosis. The current prevalence of asthma of 20% in South Africa[4] necessitates a revision of priority definition to include asthma as an important public health issue.

At this time I noted that South African children were burdened by the two respiratory disorders that might define opposite ends of the spectrum of immunologically mediated conditions. Research into the latter disease (HIV-associated pulmonary conditions) profile would occupy my later career.

Nasal disease forms part of the spectrum of the 'united airway' concept and is no less important a cause of impaired quality of life than asthma. Many persons with asthma have allergic rhinitis and uncontrolled nasal disease makes asthma control less likely. A survey of allergic rhinitis morbidity in a group of patients who might expect complete resolution to normal life followed.[5] This paper was the first South African study to address allergic rhinitis morbidity and seek out the prevalence of poor control in this common condition.

A survey of known asthmatics, in the general population of the country, followed to assess asthma control.[6] This assessment was initiated because the absolute, population-based evidence, of poor asthma control in the urban population of South Africa, was lacking. I had

already reported on asthma control in rural South Africans and hence this study was necessary. This is the group of individuals who pay for health services through insurance. This population would define individuals who might expect the best care from health practitioners and therapies that are readily available. The study suggests that, as with surveys from the rest of the world, asthma control is seriously under-estimated and neglected in South African children.

Some years after publishing the early findings of poor asthma control a follow-up study was conducted. The study by Greenblatt et al, is the most recent survey of asthma control in South Africa.[7] The aim of this study was to compare assessments of asthma control as reported by patients and their doctors. The findings suggests that doctors over-estimate control of asthma but also reveals that asthma control is best achieved by specialist private pulmonologists for their patients and is also best achieved when a combination inhaled corticosteroid and long-acting beta-agonist are used in combination in a single inhaler. These findings need to be translated into care of South African asthmatics and need careful implementation if our goal is truly asthma control.

For the individual asthmatic patient control means achieving the 'goals of asthma management'. Research to illustrate an attempt to define asthma control more clearly and precisely in the individual patient followed.[8] This study illustrates clearly the overriding theme of this research work that asthma control cannot be defined simply, nor measured by single variables or testing. It seems reasonable to suggest that only by stressing the importance of multiple measures of asthma control will change occur in this disease and its present significant load on morbidity. An alternative thought is that measuring asthma control may in fact be an elusive pipe dream with the current tools available. It is hoped that these findings will focus worldwide, and also in South Africa, on the problems of failing to measure asthma control in individuals with asthma and, in addition, failing to properly quantify asthma control.

I am continuing to explore the thought that has been germinating in Africa for some time, that not all children with asthma in Africa are atopic and that proof of atopy is absent in many families.[9]

CONCLUSION

My research work offers potential reasons for the poor control of atopic respiratory disorders in children, namely that most practitioners looking after individuals with asthma are not knowledgeable to do so or are not empowered to use optimal therapy, that in fact aiming for asthma control may be difficult or impossible to measure and that the allergic basis of these conditions, especially asthma, has been overestimated and requiring proof of allergy is limiting diagnostic possibilities for many asthmatics.

Allergic rhinitis and asthma are the most common chronic conditions of mankind, and this is just as true in South Africa. We cannot afford to continue to minimise the importance of these common conditions, at the expense of looking after HIV and TB-infected children. The atopic respiratory conditions deserve as much attention and management of them will not require the same end points of saving lives but a new target of improving quality of life. After all, living well should be as important as living at all. As Chairman of NAEP and the SAARWG, I have attempted to create a legacy for control of asthma and allergic rhinitis in South Africans. We as a Society have failed to provide the care deserved by children and adults with these conditions. We can and should do more.

REFERENCES

1. Green RJ, Luyt DK. Clinical characteristics of childhood asthmatics in Johannesburg. S Afr Med J 1997;87:878-882.
2. Green RJ, Luyt DK. Clinical presentation of chronic non-infectious rhinitis in children. S Afr Med J 1997;87:987-991.
3. Green RJ, Greenblatt M, Plit M, Jones S, Adam B. Asthma management and perceptions in rural South Africa. Ann Allergy Asthma Immunol 2001;86:343-347.
4. ISAAC Steering Committee. Worldwide variation in prevalence of symptoms of asthma, allergic rhinoconjunctivitis and atopic eczema. ISAAC. Lancet 1998;351:1225-1232.
5. Green RJ, Davis G, Price D. Concerns of patients with allergic rhinitis – The Allergic Rhinitis Care Programme in South Africa. Prim Care Respir J 2007;16:299-303.
6. Green RJ, Davis G, Price D. Perceptions, impact and management of asthma in South Africa: a patient questionnaire study. Prim Care Respir J 2008;17:212-216.
7. Greenblatt M, Galpin JS, Hill C, Feldman C, Green RJ. Comparison of doctor and patient assessments of asthma control. Respir Med 2010;104:356-361.
8. Green RJ, Klein M, Becker P, Halkas A, Lewis H, Kitchin O, Moodley T, Masekela R. Disagreement among common measures of asthma control in children. CHEST 2013;143:117-122.
9. Abbott S, Becker P, Green RJ. The relationship between maternal atopy and childhood asthma in Pretoria, South Africa. ISRN J Allergy 2013;Article 164063.