

BARRIERS TO OPTIMAL CONTROL OF ASTHMA AND ALLERGIC RHINITIS IN SOUTH AFRICA

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ABSTRACT

Asthma and allergic rhinitis (AR) are the commonest chronic conditions causing ill health in South Africa. Local South African studies reveal that most patients with these conditions are not well controlled. There are obviously a number of barriers to achieving control. Barriers to optimal control of asthma and allergic rhinitis in South Africa may fall into one of four domains: *health-authority-related factors, doctor-related factors, patient-related factors and environmental factors*. Each of these is important and plays a role. In the final analysis patient education is important, and the efforts of many organisations (including the National Asthma Education Programme (NAEP) and the South African Allergic Rhinitis Working Group (SAARWG)) are increasing the likelihood of control for patients with asthma and AR.

INTRODUCTION

Asthma and allergic rhinitis (AR) are the commonest chronic conditions causing ill health in South Africa. The International Study of Asthma and Allergies in Childhood (ISAAC) has revealed that the prevalence of both of these conditions is in the order of 20% of school children in Cape Town.¹ The prevalence of both conditions is in fact very similar at another South African site, Polokwane.¹ This suggests that the data are reliable enough to use to reflect a prevalence for all South African children. Because they are so common, these conditions deserve our attention. Most doctors are also familiar with the fact that both asthma and AR, while seldom fatal, are still a cause of much morbidity, both in South Africa, and around the world. Why this is the case is the subject of this review article. It is possible to classify the barriers to optimal management and control of these two airway diseases into four domains (Table I). Into each of these I have placed some of the commonest and most readily identifiable causes. There are obviously an infinite number of factors that could be identified. I apologise in advance for not completing this list. Space and time limit my quest.

HEALTH-AUTHORITY-RELATED FACTORS

It is my firm belief that the most important barrier to asthma and AR being taken seriously in South Africa is that our health resources are swamped by chronic and serious infectious diseases, HIV and tuberculosis (TB). South Africa has the peculiar distinction of housing the most individuals with HIV infection in the world.² We also have the city with the highest TB incidence on the planet, namely Cape Town.³ It is not surprising that our health spend is consumed by these two commonly fatal conditions. These conditions require an enormous spend, whether the priority is prevention or treatment. This is a fact of life. Asthma and AR seldom kill and they are therefore not seen in the same light. While nobody

Table I. Barriers to optimal control of asthma and allergic rhinitis in South Africa

Health authorities

Rising prevalence
Swamped health care services
Competing respiratory diseases especially HIV/TB
Cost

Doctors

Under-recognition and delay to diagnosis
Inappropriate management
Lack of assessment of control

Patients

Under-recognition
Overuse of over the-counter (OTC) preparations
Lack of control
Non-adherence
Inability to use delivery devices
Cost of medication

Environmental factors

Allergen seasonality
Pollutants and legislation

would deny the need to spend wisely on HIV and TB, we should have sufficient monies to, in addition, prioritise control efforts for asthma and AR.

A study done in the Transkei in 1993⁴ revealed asthma treatment cost to be only 0.38% of that government's total annual medical expenditure. The average hospital stay for an asthma exacerbation was 9 days, and it seems that the indirect costs of asthma would be significant. Interestingly it was demonstrated that the annual cost of beclomethasone dipropionate (BDP) for 1 person at that time equated to the cost of 2.25 days in hospital, yet only 43 prescriptions for BDP were filled in the Transkei in 1992! Indirect costs of asthma and costs associated with uncontrolled disease dominate the cost structure for asthma in South Africa. The appropriate costs of medication, irrespective of their absolute cost, are but the tip of the cost iceberg in asthma.

It should be noted that not only indigent asthmatics are deprived of chronic asthma medication. Recent statistics reveal that the private-funded sectors of South Africa are being curtailed in their spend on medications. In the 'medical aid' sector only costs for hospitalisation are rising significantly, while annual costs for medications and doctor consultations remain flat.

DOCTOR-RELATED FACTORS

While these may not be the most important of the factors leading to poor control, unfortunately doctor-related factors are frequently reported in studies conducted to identify reasons for poor disease control.

In the late 1990s Dr David Luyt and I conducted a study of delay to diagnosis of asthma in children and we found that more than 50% of young children who were finally labelled asthmatic had had symptoms for at least 1 year prior to this diagnosis being made.⁵ Twenty-five per cent had a delay of 2 years or more. This is not only

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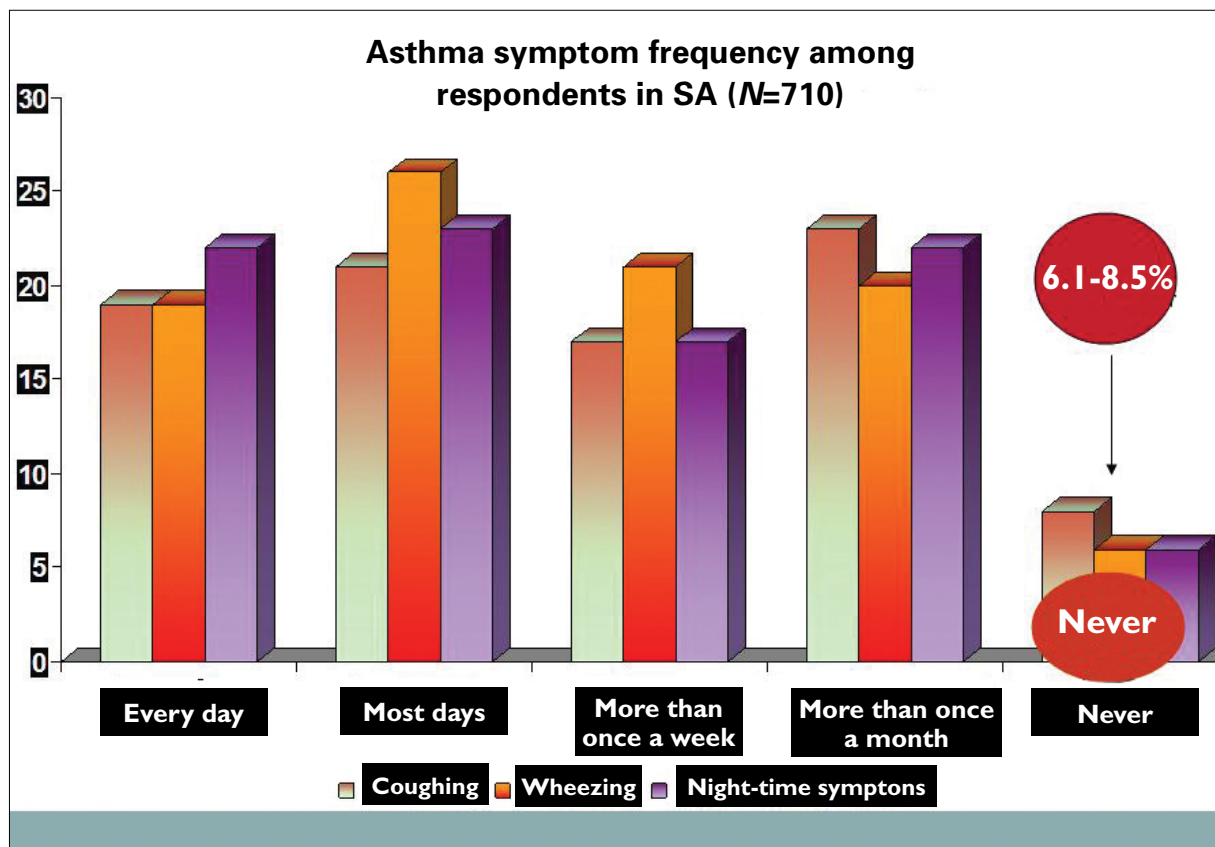


Fig. 1. Asthma symptom frequency among respondents in South Africa.

a problem from the point of view of associated consequences of impaired quality of life during the delay to diagnosis, but also unfortunately an enormous cost burden due to unnecessary medications and hospitalisations during that time. Most of these undiagnosed asthmatics are given unnecessary antibiotics and other inappropriate therapies, and this obviously has consequences for seemingly unrelated issues such as increasing antimicrobial resistance. This is, in its own right, a major problem.

Unfortunately underdiagnosis is balanced in many cases by overdiagnosis. We are all familiar with the problem of diagnosing asthma in the preschool wheezer; many young children labelled as asthmatic turn out not to have this disease. New South African Paediatric Asthma Guidelines have recently been published. They discuss the principles of diagnosis of asthma in the young wheezer.⁶

The first study of asthma control in South Africa⁷ was conducted in the early part of this decade. Unfortunately this study revealed that as few as 5% of asthmatics, diagnosed and treated for the condition, had cessation of asthma symptoms (Fig. 1).⁷ Despite this being a disappointing conclusion, it was no worse than results of similar studies in the developed world. Following this study a plea was made to address asthma control, and new South African asthma guidelines (for both adults and children) and efforts in continuing medical education addressed this issue.

This year the Asthma Control Study South Africa was published.⁸ This study compared patient assessments of asthma control using the Asthma Control Test (ACT) score with a doctor-defined assessment of the same patient's control. An ACT score of 25 is total asthma control (ACT 3), an ACT score of 20-24 is good asthma control (ACT 2) and an ACT score of <20 (ACT 1) is poor asthma control. For the purposes of analysis scores of 20 or more were combined as 'controlled'. The major finding of this study was that doctors over-

estimate asthma control by roughly 17%. Whereas 50% of patients thought that they were 'controlled', doctors thought 67% of the same patients were controlled (Fig. 2). Now firstly, the fact that half of asthmatics are now 'controlled' is a major improvement from 5% some years ago. However, 17% who are not actually controlled but whose doctors believe them to be so, is an enormous number in hard terms. If 20% of South Africans have asthma this 17% may represent nearly a million people. We may be winning the war on asthma control but there is obviously still some room for improvement. The study also revealed some other interesting results that suggest where asthma control can be better addressed.

The first finding is that asthma control is best achieved in patients who see specialist doctors. If a patient is managed at a primary health care clinic, the chances of being controlled are 1 in 4 (25%). If managed by a private specialist, the chances that the patient will identify him/herself as controlled are 2 in 3 (66%). While obviously not all South Africa's asthmatics can be managed in private practice, this study does reveal that the care offered by specialists needs to be copied by more centres treating asthmatics, and possibly if an asthmatic is identified as being poorly controlled, he/she should be referred to a specialist centre. The second finding of interest in this study is that only asthmatics who receive a combination inhaled corticosteroid (ICS) and long-acting bronchodilator (LABA), in a single inhaler are optimally controlled. Once again this finding cannot be generalised to all asthmatics but does suggest that such medication should not be withheld from asthmatics who may need better asthma control drugs. Most certainly no asthmatic should be forced to use separate devices for ICS and LABA as is currently the trend in both private and state practice.

Although asthma is obviously a disease with major consequences for both quality of life and control of disease, the other airway disease of concern is AR. Since AR is

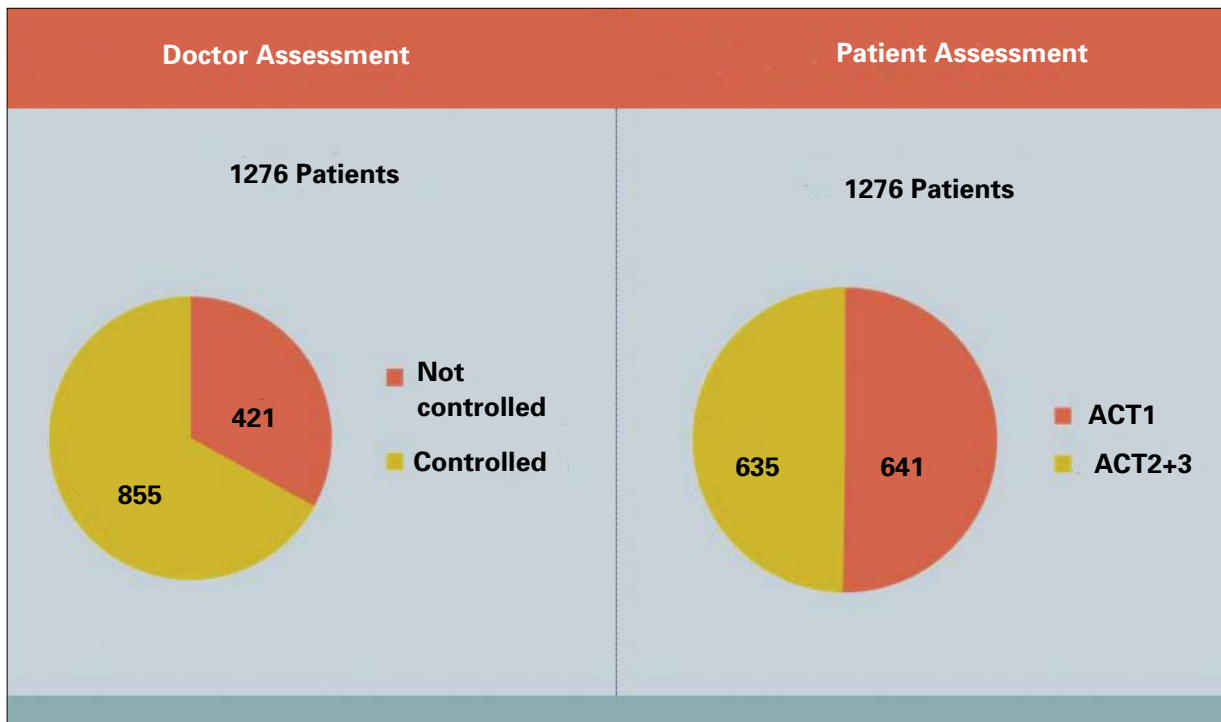


Fig. 2. Patient and doctor assessment of asthma control. ACT – Asthma Control Test.

not a killer disease, it particularly, has slipped beneath the radar. A study of AR control in South Africa has revealed depressing figures for control similar to those seen in early asthma studies.⁹ Most patients with AR, despite receiving treatment, are still waking frequently with symptoms (Fig. 3). This can't be good. This is one condition that still has a long way to go to achieve optimal control. We as doctors must pay more attention to AR symptoms. They are seriously troubling to sufferers and the mere prescription of treatment is not enough to limit its impact. In fact, evidence is mounting that management of AR deserves as much education of patients as does asthma, and that the mere prescription of treatment for AR is not sufficient to control the condition.

PATIENT-RELATED FACTORS

There is a potentially endless list of factors that may be thought to arise from patients in limiting control of airway disease. Table II lists but a few of these.

Some of these are worth discussing. Firstly, studies have revealed that even non-adherence to controller medication is not just a single phenomenon.⁷ Non-adherence should be thought of as its own disease with a differential diagnosis. Some patients stop taking medication when they feel well. They need explanation about the preventative properties of anti-inflammatory medication. Patients who are fearful of long-term use of corticosteroids also need some education in order to allay their fears.

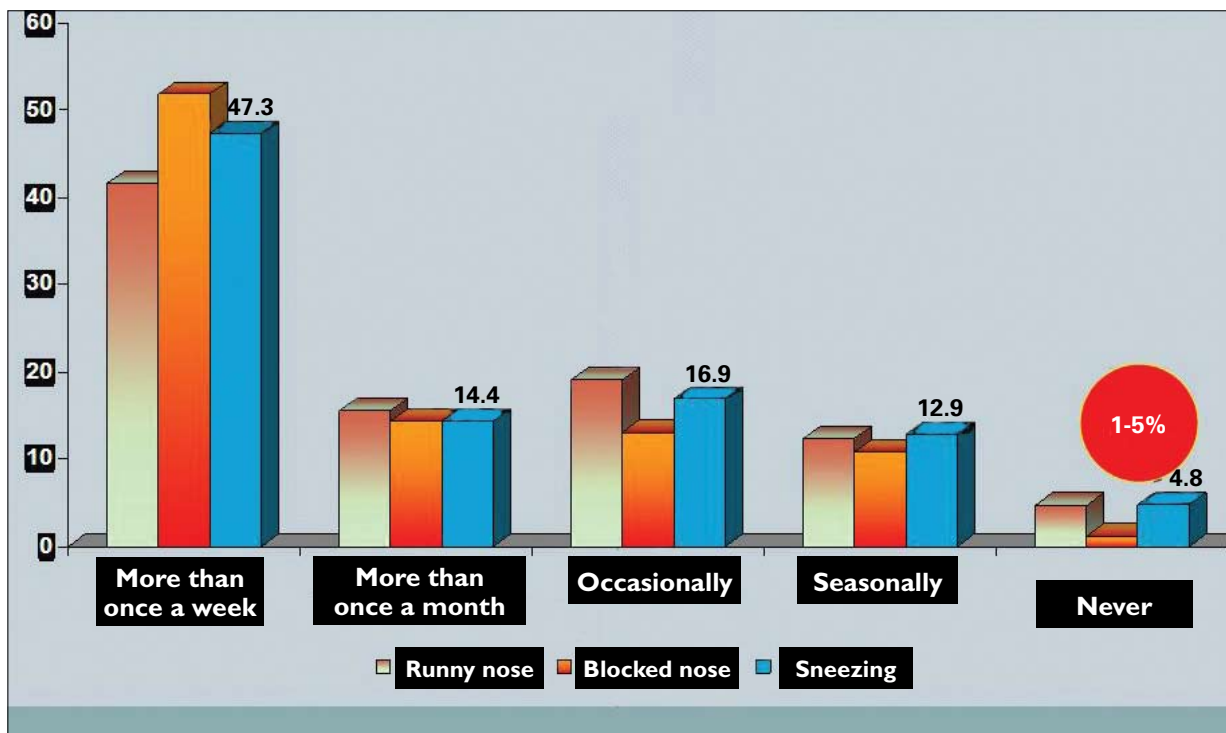


Fig. 3. Rhinitis symptom frequency among respondents in South Africa (N = 1181).

Table II. Patient-related factors that may impact on achieving ideal control of asthma and AR

Failure to recognise disease chronicity
Abuse of over-the-counter medications
Non-adherence
Inability to use delivery devices
Fear of adverse events
Cost of treatment

Patient education about both asthma and AR is the key to success. All patients who have a chronic illness need to know what the disease is all about and how controller medication works. In addition most asthmatics, it has been shown, cannot use a metered-dose inhaler delivery device without being taught.¹⁰

It is clear from recent studies that individuals with AR do not recognise the trigger factors for disease that some of us have continually forced on them. One such factor is food allergy. A South African study⁷ has revealed that patients infrequently recognise the foods that they eat as triggering symptoms. It is time we listened to our patients. Our efforts at ensuring control could be better directed.

ENVIRONMENTAL FACTORS

The uniqueness of South Africa's climatic and environmental conditions produces a profile of trigger factors for allergic diseases that are not similar to the northern hemisphere. The grass pollen season in South Africa, for example, is a long one. For some 9 or 10 months of the year pollen grains are present in the atmosphere at levels that may cause symptoms in allergic individuals.¹¹ This is obviously important and we should take into consideration that diseases such as AR are more persistent/perennial in South Africa than many other parts of the world. Chronicity also causes an increase in severity of some symptoms, such as nasal blockage.¹² An observational study of rhinitis carried out at the Universitas Hospital in Bloemfontein from 1984 to 1993 revealed that of all patients treated, 83.1% had moderate or severe nasal congestion.¹² Hence the many signs and complications of AR can be expected to be worse in South Africa. AR can no longer be considered a trivial condition, and this ties up with the study demonstrating impaired quality of life in sufferers.

The allergic nature of these airway conditions is now under review. A recent study in Pretoria has revealed that only 45% of asthmatic children are atopic.¹³ This has many implications not the least of which relates to how we diagnose asthma in young wheezy infants. Martinez and colleagues^{14,15} have taught that asthma is an atopic illness and that the presence of atopy defines asthma in wheezy pre-school children. Obviously this phenomenon is not consistent in all asthmatics and we should bear this in mind when using criteria to define asthma. Atopy is still a risk factor but other testing should be built on this foundation.⁶

CONCLUSION

There is potentially an endless list of barriers to optimal control of these two common conditions. We could focus on these and become overwhelmed by our inability to conquer them. However, there is much to celebrate and many individuals and organisations are already making a difference. The National Asthma Education Programme (NAEP) and the South African Allergic Rhinitis Working Group (SAARWG) are two such organisations. There is an opportunity for each of us to get more involved in patient education. We owe our asthmatic and rhinitic patients a better deal.

Declaration of conflict of interest

Prof Robin Green is an executive committee member of ALLSA, SATS and NAEP. He has participated on medical advisory boards, conducted continuing health education activities and/or industry-sponsored clinical research trials for the following companies: Altana, AstraZeneca, Boehringer Ingelheim, GlaxoSmithKline, MSD, Pfizer and Roche. He has received educational grants from GSK, MSD and Pfizer.

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