

GUEST EDITORIAL

## Paediatric asthma in South Africa: A case of hunger in times of plenty

Asthma is a heterogeneous chronic inflammatory condition with variable airflow limitation and characterised by airway reversibility.<sup>[1]</sup> Globally, asthma is among the top five most common respiratory non-communicable diseases, with an estimate of >300 million sufferers.<sup>[2]</sup> The 2015 Global Burden of Disease Study found that worldwide 4 million deaths are due to chronic respiratory disease, with 80 - 90% occurring in low- and middle-income countries, including South Africa (SA).<sup>[3,4]</sup> In a modelling study, asthma prevalence was found to be increasing in adults and children in Africa. Asthma rates almost tripled over 20 years – from 40 million in 1990 to 119 million in 2010.<sup>[5]</sup>

In the International Study of Asthma and Allergies in Childhood (ISAAC), SA children were found to have the highest prevalence of asthma symptoms: >20% in 13 - 14-year-olds and >50% with severe asthma symptoms, reflecting a high morbidity due to asthma.<sup>[6,7]</sup> An increasing prevalence of asthma has also been linked to increased rates of urbanisation. The following are risk factors for the development of asthma and more severe asthma symptoms: urbanisation, which is associated with increased exposure to air pollution due to traffic, poor ventilation of houses in peri-urban areas, high levels of violence, psychosocial stressors and little physical activity.

Despite SA having an excellent package of medications for asthma care in the *Standard Treatment Guidelines and Essential Medicines List for South Africa*,<sup>[8]</sup> the number of asthma deaths remains high, with SA being among the top 10 countries in the world in terms of such deaths.<sup>[9]</sup> The key to improving asthma-related outcomes is linked to three main pillars: access to a diagnosis being made, appropriate access to medication, and education to improve adherence and achieve asthma control. In this issue of CME, the South African Childhood Asthma Working Group (SACAWG)<sup>[10,11]</sup> reviews the epidemiology, diagnosis and control of asthma in children.

Diagnosis of paediatric asthma is particularly challenging, especially in preschool children <5 years of age. Although this age group has a low mortality risk, there is significant morbidity owing to over-utilisation of healthcare resources, e.g. multiple visits to healthcare providers, use of unnecessary and sometimes harmful medications and the need for repeated admissions. Primary-level healthcare providers do not feel confident to make the diagnosis of asthma in young children. Consequently, recurrent wheezing in a preschool child is not documented or is attributed to conditions other than asthma. Furthermore, the current traditional diagnostic tools for asthma in children >6 years old to demonstrate airways reversibility are difficult to use in preschool children. Noting these diagnostic challenges, a key change to the recommendations in confirming the presence of asthma in this age group is the concept of a 6 - 8-week trial of medication, followed by a period of cessation of

treatment to confirm the diagnosis of asthma. Should the symptoms recur with discontinuation of therapy, a diagnosis of asthma can then confidently be made.

Achieving asthma control is one of the goals of asthma treatment. Poor asthma control is linked to a diminished quality of life and escalation of direct and indirect costs with regard to the condition. While an assessment of asthma control should be done during each follow-up visit, the new recommendations have been adapted to include the assessment of future risk for poor asthma outcomes, in line with the Global Initiative for Asthma recommendations.<sup>[1]</sup>

A diagnosis of asthma and access to treatment are achievable goals in SA, even in young children, as long as healthcare providers perform a simple risk assessment and initiate a therapeutic trial of medications, thereby reversing the current status quo of poor access to diagnosis and therefore appropriate accessible treatment.



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1. Global Initiative for Asthma. [www.ginasthma.org](http://www.ginasthma.org) (accessed 22 January 2017).
2. Global Asthma Report. 2014. <http://globalasthmareport.org/> (accessed 5 May 2018).
3. Beran D, Zar HJ, Perrin C, Menezes AM, Burney P, for the Forum of International Respiratory Societies Working Group Collaboration. Burden of asthma and chronic obstructive pulmonary disease and access to essential medicines in low-income and middle-income countries. *Lancet Respir Med* 2015;3(2):159-170. [https://doi.org/10.1016/S2213-2600\(15\)00004-1](https://doi.org/10.1016/S2213-2600(15)00004-1)
4. GBD 2015 Mortality and Causes of Death Collaborators. Global, regional, and national life expectancy, all-cause mortality, and cause-specific mortality for 249 causes of death, 1980 - 2015: A systematic analysis for the Global Burden of Disease Study 2015. *Lancet* 2016;388(10053):1459-1544. [https://doi.org/10.1016/S0140-6736\(16\)31012-1](https://doi.org/10.1016/S0140-6736(16)31012-1)
5. Adeyoye D, Chan KY, Rudan I, Campbell H. An estimate of asthma prevalence in Africa: A systematic analysis. *Croat Med J* 2013;54(6):519-531.
6. Pearce N, Ait-Khaled N, Beasley R, et al., and the ISAAC Phase Three Study Group. Worldwide trends in the prevalence of asthma symptoms: Phase III of the International Study of Asthma and Allergies in Childhood (ISAAC). *Thorax* 2007;62(9):757-765. <https://doi.org/10.1136/thx.2006.070169>
7. Zar HJ, Ehrlich RI, Workman L, Weinberg EG. The changing prevalence of asthma from 1995 to 2002. *Pediatr Allergy Immunol* 2007;18(7):560-565. <https://doi.org/10.1111/j.1399-3038.2007.00554.x>
8. National Department of Health. *Standard Treatment Guidelines and Essential Medicines List for South Africa: Hospital Level Paediatrics*. Pretoria: NDoH, 2017.
9. Zar HJ, Stickells D, Toerien A, Wilson D, Klein M, Bateman ED. Changes in fatal and near fatal asthma in an urban area of South Africa from 1980 - 1997. *Eur Respir J* 2001;18:33-37. <https://doi.org/10.1183/09031936.01.00081801>
10. Masekela R, Gray CL, Green RJ, et al., on behalf of the South African Childhood Asthma Working Group (SACAWG). The increasing burden of asthma in South African children: A call to action. *S Afr Med J* 2018;108(7):537-539. <https://doi.org/10.7196/SAMJ.2018.v108i7.13162>
11. Masekela R, Risenga SM, Kitchin OP, et al., on behalf of the South African Childhood Asthma Working Group (SACAWG). The diagnosis of asthma in children: An evidence-based approach to a common clinical dilemma. *S Afr Med J* 2018;108(7):540-545. <https://doi.org/10.7196/SAMJ.2018.v108i7.13165>

*S Afr Med J* 2018;108(7):536. DOI:10.7196/SAMJ.2018.v108i7.13387