

# AFRICAN VOICES

## Hypertension research in Africa: a gateway to improving awareness of and addressing challenges in care

NASHEETA PEER

ANDRE-PASCAL KENGNE

Non-communicable Diseases Research Unit,  
South African Medical Research Council,  
Durban and Cape Town, South Africa



Hypertension, a key risk factor for the cardiovascular diseases (CVDs) of ischaemic heart disease (IHD) and stroke, has become a threat to public health globally. Even Africa, with a substantial burden of infectious diseases, suffers from a high and burgeoning burden of hypertension and subsequent CVDs. In 2019, IHD and stroke contributed to 11% of mortality in the World Health Organisation Africa Region. Notably, almost half (48.9%) the mortality attributable to IHD and stroke in  $\geq 15$ -year-old Africans occurred in those  $< 70$  years of age.<sup>1</sup> This represents an unacceptable high burden of premature deaths in the working age population who are likely family breadwinners. Poor management of hypertension in Sub-Saharan Africa, as reported by the NCD Risk Factor Collaboration, likely contributed to the high burden of premature CVD mortality in the region with only 13% of women and 9% of men with hypertension controlled on treatment.<sup>2</sup>

Nevertheless, there is a growing awareness of hypertension as a major public health issue in Africa as reflected in the incremental increase in publications emanating from the continent.<sup>3</sup> For example, per 10-year period from 1990 onwards, publications in Sub-Saharan Africa on hypertension prevalence increased from 32 (1990-1999) to 65 (2000-2009) and rose exponentially to 317 (2010-2019) publications in recent years. These data demonstrated an initial doubling of publications followed by an almost 5-fold exponential increase between the latter two decades and may likely signal a growing awareness of hypertension as a

serious problem in Africa. The most publications over the 30-year period (1990 – 2019) examined were from South Africa ( $n=81$ ) with publications more frequent in recent years.<sup>3</sup> The increase in publication numbers may correlate with the rise in hypertension prevalence in South African men and women from 27% and 31%, respectively, in 1998 to 45% and 48% in 2016.<sup>4</sup> Notably, while remaining suboptimal, hypertension control among the treated increased from 17% to 26% in men and from 21% to 30% in women between 1998 and 2016 and may be related to an increasing awareness of the growing hypertension burden in the country.<sup>4</sup>

However, numerous challenges exist to optimal hypertension care in Africa at the governance, healthcare system, healthcare provider and patient levels.<sup>5</sup> For example, health systems are poorly structured and sub-optimally funded, healthcare workers are overburdened and inadequately trained, and basic equipment such as sphygmomanometers to measure blood pressure and essential medications are frequently in short supply, etc. Several solutions have been proposed including the reallocation of care from doctors to those less skilled such as nurses or trained community health workers. Such task-shifting restructuring, together with ongoing training and monitoring of lower-level healthcare workers, has the potential to improve hypertension and CVD care.<sup>5</sup>

Novel approaches may be implemented for specific vulnerable populations such as patients with human immunodeficiency virus (HIV) who now have prolonged lifespans following the successful rollout of antiretroviral therapy in Africa and are developing hypertension similar to general populations. Considering the high HIV burden in Africa, incorporating routine blood pressure screening and hypertension care in HIV clinics for patients in regular contact with healthcare services may ensure that a substantial proportion of the population receive optimal hypertension treatment. The successes of and lessons learnt from HIV management in Africa, which includes task-shifting described above, may be leveraged to improve hypertension and CVD care on the continent.<sup>5</sup> For example, the contrasting approaches to HIV and hypertension care was highlighted in the same patient population who were found to be adherent to their antiretroviral therapy but not to their antihypertension medication.<sup>6</sup> This may likely be attributed to specific strategies employed in HIV programmes; adherence to antiretroviral therapy improved when this was emphasised during patient education and counselling sessions. However, the latter are lacking in hypertension and CVD management and harnessing such lessons learnt from HIV care in Africa will likely improve hypertension control.<sup>6</sup> Other initiatives may include decentralising hypertension management with community outreach programmes led by nurses and community health worker teams. This may likely improve patient access to care by removing barriers associated with transportation costs, time spent travelling long distances and waiting in clinic queues; it may enable easier access to blood pressure screening and treatment services. Research will be required to identify and adapt the optimal model of decentralised hypertension care in each setting.

In summary, ensuring effective management of and optimal adherence to treatment for hypertension and other CVDs requires a holistic approach with a need to understand and address the unique and complex multifactorial influences in each setting. Ongoing review and regular monitoring of strategies implemented will play a major role in optimising efficiencies and cost-effectiveness of hypertension and CVD care.

## References

1. World Health Organization. Global Health Estimates 2019: Deaths by Cause, Age, Sex, by Country and by Region, 2000-2019. Geneva; 2020.
2. Zhou B, Carrillo-Larco RM, Danaei G, Riley LM, Paciorek CJ, Stevens GA, et al. Worldwide trends in hypertension prevalence and progress in treatment and control from 1990 to 2019: a pooled analysis of 1201 population-representative studies with 104 million participants. *Lancet*. 2021;398(10304):957-80.
3. Peer N, George C, Kengne AP. Knowledge generation via publications on hypertension prevalence in population-based studies conducted in sub-Saharan Africa over 30 years: 1990 - 2019. *S Afr Med J*. 2019;109(11 Suppl 1):3-7.
4. Peer N, Uthman O, Kengne AP. Rising prevalence, and improved but suboptimal management, of hypertension in South Africa: a comparison of two national surveys. *Global Epidemiology*. 2021;3.
5. Peer N, Baatiema L, Kengne AP. Ischaemic heart disease, stroke, and their cardiometabolic risk factors in Africa: current challenges and outlook for the future. Expert review of cardiovascular therapy. 2021;19(2):129-40.
6. Enslin D, Mallya P. Factors influencing treatment adherence in hypertension and HIV management in South Africa: A comparative literature review. *S Afr Fam Pract*. 2022;64(1).

Nasheeta Peer - [nasheeta.peer@mrc.ac.za](mailto:nasheeta.peer@mrc.ac.za)

Andre-Pascal Kengne - [andre.kengne@mrc.ac.za](mailto:andre.kengne@mrc.ac.za)