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Report of the International Society of Hypertension (ISH) Hypertension Teaching

Seminar organized by the ISH Africa Regional Advisory Group:

Maputo, Mozambique, 2016

B Onwubere, A Coca, A Damasceno, S Kadiri, R Kruger, D Lemogoum, JR M'Buyamba-Kabangu, I Okpechi, N Poulter, B Rayner, YK Seedat, AE Schutte, and R M Touyz.

Short title: ISH Africa Teaching Seminar

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In line with the mission of the International Society of Hypertension (ISH) to promote and encourage the advancement of scientific research and knowledge and its application in the global prevention and management of heart disease, stroke and related cardiovascular diseases of hypertension the Africa Regional Advisory Group (RAG) of ISH (created in 2010), organised an education program reaching out to young doctors across Africa. A similar program, run through the Committee on Low and Middle Income Countries of ISH, had previously organized seven Hypertension Teaching Seminars in various parts of Africa since 2006. The eighth ISH Hypertension Teaching seminar was organised by the ISH Africa RAG in Maputo, Mozambique on 18 – 19 April, 2016 under the direction of Prof. B Onwubere and the local host, Prof. A Damasceno and in collaboration with the European Society of Hypertension, (ESH), the Mozambican Heart Association (AMOCOR) and the International Forum for Hypertension Control and Prevention in Africa (IFHA). There were over 65 participants at the meeting from many countries across Africa. Apart from the Seminar Directors, other faculty members included: A Coca (Spain), S Kadiri (Nigeria), D Lemogoum (Cameroon), JR M'Buyamba-Kabangu (Congo DR), N Poulter (UK), B Rayner (S Africa), YK Seedat (S Africa), AE Schutte (S Africa), and RM Touyz (UK). Seminar coordinators were Drs. I Okpechi and R Kruger both from South Africa. The seminar was attended by participants from eleven African countries, including Cameroon, Democratic Republic of Congo, Ethiopia, Kenya, Malawi, Mozambique, Nigeria, South Africa, Sudan, Tanzania, and Uganda. The participants were selected from various medical and health-care professionals, and included mainly doctors, but also representatives from nursing, clinical pharmacy and clinical psychology. This participation represented true multidisciplinary, highlighting the importance of the health-care team approach in the management of patients with hypertension.

The 2-day intensive program comprised eight sessions including a 'Guidelines' and Abstracts Session, where participants presented abstract-based talks. The topics of hypertension covered were: **Hypertension epidemiology, prevalence and mechanisms (pathogenesis) of hypertension in Africa** (*Lectures given by: A. Damasceno, AE Schutte, YK Seedat, R Touyz*), **Hypertension diagnosis, prevention, screening and blood pressure measurement in Africans** (*Lectures given by: B Rayner, S. Kadiri, D. Lemogoum, JR M'Buyamba-Kabangu, N. Poulter*), **Hypertension complications** (*Lectures given by A Coca, S Kadiri, B Onwubere*), **Hypertension treatment and control in Africa** (*A Coca, D Lemogoum, J-R M'Buyamba-Kabangu, B Onwubere, N Poulter, B Rayner, AE Schutte, YK Seedat*) **Review of hypertension guidelines and Panel discussions** (*S. Kadiri, D. Lemogoum, N Poulter, B Rayner, YK Seedat, R Touyz*).

YK Seedat gave an overview of Hypertension in the African perspective outlining the immense burden of hypertension in the African region. The lectures variously reviewed mechanisms of blood pressure elevation in Africa including the important role of unhealthy lifestyle on vascular reactivity and the rising prevalence and burgeoning burden of hypertension as risk factor for various cardiovascular diseases in urban and rural Africans. Concerning vascular mechanisms in hypertension, R M Touyz reiterated that vascular injury in hypertension was associated with increased CV events and maintaining vascular health is important in the prevention of hypertension-related complications and target organ damage. AE Schutte highlighted the fact that hypertension occurs at a younger age and is often more severe in terms of BP levels in black patients than in whites and the disturbing situation that black patients with hypertension are particularly vulnerable to strokes and kidney disease. Hypertension has also become more common in lower-income populations with increasing urbanisation.

On the topic of hypertension diagnosis, prevention, screening and blood pressure measurement in Africans, JR M'Buyamba-Kabangu discussed approaches on how to measure blood pressure in the office and out-of office. There was extensive discussion about the relative absence of ambulatory blood pressure monitoring devices in many centres in Africa and the need for validation and re-certification of existing devices when used for clinical practice and for research. AE Schutte stated that recent statistics show that cardiovascular disease (CVD) is likely to overtake infectious diseases as the greatest threats to health in Africa and that cardiovascular risk factors especially, high blood pressure, are on an increasing trajectory that will be highly challenging to reverse. D Lemogoum pointed out that because of the large number of hypertensive individuals in Sub-Saharan Africa, treatment should be implemented at the primary health care level and a strategic approach to prevent and control hypertension was critically needed. B Rayner elucidated the need for proper evaluation, stratification of risks, and treatment based on current recommended guidelines, particularly related to the African context.

With regards to hypertension complications, B Onwubere focused on the more severe complications of hypertension especially in the black African population. A Coca stated that 'improvement of BP control in African countries is the current challenge to reduce stroke mortality'. S Kadiri discussed the likely renal origins of hypertension, the worse kidney effects in Blacks and the roles of renin- angiotensin system blockade and aldosterone antagonists in reducing proteinuria.

Concerning hypertension treatment and control in Africa, the cost of medications were highlighted as a factor that may be contributing to low BP control in Africa. YK Seedat

stressed the importance of social factors impacting in the growing prevalence of hypertension in South Africa including increased slums/urbanisation, social differences in terms of crime, civil strife, poverty and drought, and short lifespan. N Poulter talked about the benefits of Single Pill Combinations (SPCs) as being more effective and rapid in blood pressure control than monotherapy and 2 ‘free’ drugs. Other benefits are reduced side effects, enhanced adherence, improved cardiovascular protection, and increased cost effectiveness. B Rayner asserted that treatment of hypertension in low resource setting is yet to be well documented and currently largely observational rather than based on randomized clinical trials. B Onwubere discussed the impediments and challenges on controlling hypertension in most African settings, and highlighted poor availability of healthcare facilities, poverty, low awareness levels and clinical inertia as major factors. He stressed that policy makers should be made more aware of the importance of controlling hypertension at the population level and that there should be more pro-active input from opinion leaders and policy-makers.

During the Hypertension Guidelines Session, RM Touyz reiterated the hypertension paradox: the concept of pseudo-hypertension as a result of poor compliance and adherence to therapy. Guidelines should be user-friendly, practical, short, and should have widespread application. The current ASH/ISH guidelines have these qualities, according to RM Touyz. B Rayner stated that the South African Hypertension Guidelines should serve as a model for Africa and implementation thereof could make substantial impact even in low resource settings. S Kadiri highlighted the merits of the second Hypertension Guideline in Nigeria in providing details for local hypertension management and also mentioned a major weakness of limited available local literature. He stated that the current review process and the third Guidelines would address these areas since more local literature were now available in the country since the last Guideline release. D Lemogoum mentioned that the International Forum for Hypertension

control and prevention in Africa (IFHA) in its first year of existence released a Hypertension Management Guideline for Sub-Saharan Africa published in 2003 in the Journal of Hypertension. He said that a revised Guideline would soon be released by the Society.

Fifteen oral presentations of submitted abstracts on hypertension studies in Africa were presented by participants from Nigeria (4), Kenya (4), South Africa (3), Uganda (2), Cameroon (1) and Democratic Republic of Congo (1). Some of the first data derived from the 2014 Astra Zeneca Healthy Heart Africa project based in Nairobi, Kenya were presented, stressing the endeavours to tackle a silent killer in parts of the world where access to healthcare is at its lowest. One study from Kenya (J Makoyo-Onyiego) assessed the role of task shifting towards sustainable management of hypertension while another from T Bello (Nigeria) reported on the high prevalence of pre-hypertension and hypertension in Ibadan, Nigeria from a World Kidney Day Programme. Five posters were presented of submitted abstracts on hypertension studies in Africa from Cameroon (1), DR Congo (1), Kenya (1), Nigeria (1), and Uganda (1).

A post-seminar test comprising the same questions administered at the beginning of the seminar was administered to participants. The average score at the end of the seminar rose from a pre-seminar score of 53% to a post-seminar score of 70.6%, marking a huge increase in the audience participation and learning and highlighting the importance of these teaching seminars especially in Africa. Moreover, the improved test scores reflected that the teaching was successful and that participants gained new knowledge and information about hypertension.

Two new academic initiatives arose from the Maputo Seminar: a proposal to submit a review on Hypertension in Africa - co-authored by all speakers, to the Journal of Hypertension; and also the availability of the slide presentations to the participants and ISH members through the Society's website as learning kits.

The eighth ISH Hypertension Teaching Seminar received support from the European Society of Hypertension, the Mozambican Ministry of Health, Astra Zeneca through the Healthy Heart Africa project, and some Pharmaceutical industries in Mozambique. Overall the Seminar was a great success. The goals and objectives were achieved and there was tremendous enthusiasm for the program to continue. It was suggested that the next Teaching Seminar be organised in a French-speaking African country, possibly Democratic Republic of Congo.

Disclosures: There are no disclosures to declare