Conference Proceedings

Development of the roadmap and guidelines for the prevention and management of high blood pressure in Africa: proceedings of the PASCAR Hypertension Task Force meeting: Nairobi, Kenya, 27 October 2014

Abstract

Africa has one of the fastest growing economies in the world. The economic changes are associated with a health transition characterised by a rise in cardiovascular risk factors and complications, which tend to affect the African population at their age of maximum productivity.

Recent data from Africa have highlighted the increasing importance of high blood pressure in this region of the world. This condition is largely underdiagnosed and poorly treated, and therefore leads to stroke, renal and heart failure, and death. Henceforth, African countries are taking steps to develop relevant policies and programmes to address the issue of blood pressure and other cardiovascular risk factors in response to a call by the World Health Organisation (WHO) to reduce premature deaths from non-communicable diseases (NCDs) by 25% by the year 2025 (25 × 25).

The World Heart Federation (WHF) has developed a roadmap for global implementation of prevention and management of raised blood pressure using a health systems approach to help realise the 25 × 25 goal set by the WHO. As the leading continental organisation of cardiovascular professionals, the Pan-African Society of Cardiology (PASCAR) aims to contextualise the roadmap framework of the WHF to the African continent through the PASCAR Taskforce on Hypertension.

The Taskforce held a workshop in Kenya on 27 October 2014 to discuss a process by which effective prevention and control of hypertension in Africa may be achieved. It was agreed that a set of clinical guidelines for the management of hypertension are needed in Africa. The ultimate goal of this work is to develop a roadmap for the implementation of prevention and management of hypertension in Africa under the auspices of the WHF.

Keywords: hypertension, roadmap, guidelines, implementation, monitoring, Africa

High blood pressure (BP) is the most common single risk factor for cardiovascular-related events and deaths worldwide. Over the past decade, Africa has been characterised as the world's fastest growing economy,[1] but is also in a precipitous health transition. Indeed, the estimated number of hypertensive people in Africa in 2008 was nearly four times higher than the 2005 estimate of the World Health Organisation regional office for Africa (WHO-AFRO), and it is projected to be 125.5 million by 2025.[2]

This increasingly high prevalence of hypertension is coupled with very poor awareness, and low treatment and control rates across Africa.[3-6] Hypertension therefore stands in this region of the world as the most common cause of stroke, congestive heart failure (HF) and chronic kidney disease, and poses additional challenges on the longstanding burden associated with communicable diseases and the ongoing HIV/AIDS pandemic.

Since the United Nations high-level meeting to raise international awareness on the fact that premature deaths from non-communicable diseases (NCDs) reduce productivity, curtail economic growth, and pose a significant social challenge in most countries,[7] African governments are opening political windows that need to be used as an opportunity to develop and implement policies for the prevention and control of hypertension and other NCDs.

As the leading continental organisation, the Pan-African Society of Cardiology (PASCAR) has made a real evaluation of the condition and prioritised hypertension as the highest area of priority action to reduce heart disease and stroke on the continent.[8] The PASCAR roadmap on hypertension aims to develop simple and practical hypertension management guidelines, and improve health systems and policies within the World Heart Federation hypertension roadmap framework (appended). This implies that African needs are not just for further consensus statements, reviewing the evidence, but practical guidance on how to implement strategies that translate existing knowledge into effective action and improve blood pressure control and cardiovascular (CV) health in general, as suggested by the WHF primary goal of a 25% reduction of CV mortality by the year 2025.

It is in this vein that the PASCAR Hypertension Task Force meeting was held in Nairobi, Kenya, on 27 October 2014. This event brought together hypertension specialists, guideline methodologists, and clinicians, who reviewed existing guidelines and mapped the next steps in the development of a roadmap for the control and management of hypertension in Africa.

Welcome address and review of existing guidelines

Prof Bongani Mayosi, president of the PASCAR, welcomed the attendees and thanked them for the time and the effort required to attend this inaugural meeting, and for their willingness to contribute to this most important programme in Africa. He said that in 2013, PASCAR identified priority interventions to ministries of health for the prevention of heart disease, diabetes

and stroke in the African region, called the 10 'best buys', and hypertension was identified as number one priority.[8]

Prof Mayosi's address was followed by a short speech by Dr Anastase Dzudie, chair of the Task Force, who set the scene for the meeting. He indicated that the meeting's purpose was to constitute the Task Force, identify all stakeholders, define consensus on scoping, planning and method, and agree on time lines with milestones. He said that the outcome will be to develop an African hypertension roadmap, one of the key steps being the development of an African guideline for hypertension management with a monitoring and implementation strategy, taking into account the local barriers.

As co-chair of the World Heart Federation (WHF) Working Group on Hypertension, Prof Neil Poulter presented the WHF Hypertension (HT) roadmap. He reiterated that raised BP is considered to be the biggest single risk factor contributing to global death and global burden of disease, a situation which is expected to worsen if urgent action is not taken. During the WHO meeting in Geneva in May 2013, the World Health Assembly, addressing NCDs, adopted as primary goal a 25% reduction in NCD deaths by 2025 (25×25).

Among targets to achieve this goal, reduction of high BP by 25% by 2025 is a priority action. He further said that the priority actions to reach this target will include opportunistic screening, prevention and re-screening for high-normal BP, improved treatment for HT, and education on adherence. The WHF strategy will avoid duplication of effort in different regions of the world and seeks to be synergistic with PASCAR's initiative.

Prof Basden Onwubere, president elect, International Forum for Hypertension Prevention and Control in Africa (IFHA) and chair, ISH low- and middle-income countries committee presented the 2003 IFHA recommendations for prevention, diagnosis and management of hypertension and cardiovascular risk factors in sub-Saharan Africa.[9] He indicated that these guidelines are currently under review through a committee chaired by Prof YK Seedat (South Africa). He concluded that PASCAR's idea of a task force is commendable and that it is desirable for composition and nomenclature of the task force to reflect the partnership with already existing hypertension groups with significant efforts on high BP management in Africa.

Dr Ruth Cornick (South Africa) presented the 'practical approach to care kit' (PACK), a clinical practice guideline for primary adult care, including hypertension. Her presentation addressed critical issues to consider when developing clinical guidelines in order to ensure their implementability and effectiveness, which included assessing user requirements, simplicity, keeping up to date, tackling the system and choosing an effective implementation strategy.

Pof Elijah Ogola (Kenya): Kenya has embarked on an AstraZeneca-supported programme called Healthy Heart Africa (HHA), which will focus initially on primary healthcare providers. The pilot programmes, which were developed with input from local medical experts, will start at the end of 2014. The pilot programmes will include creating public awareness and also using technology to track those at risk. The next step is to formally endorse a 'national primary care guideline' and expand to a more comprehensive guideline with interaction through this PASCAR initiative.

Prof Brian Rayner (South Africa) presented a comparative review of the NICE, the JNC 8 and the International Society on Hypertension in Blacks (ISHIB) consensus guidelines. The consensus points were on BP targets/goals that will be less aggressive than before. Also, there is a much closer agreement on optimal drug treatment (ACE or ARB, CCB, diuretic, or all three).

Prof Abdoul Kane (Senegal) presented a comparative review of the French and the European Society of Cardiology (ESC)/European Society of Hypertension (ESH) guidelines on hypertension. He put forward that ESC/ESH guidelines were state of the art on hypertension (72 pages), while the French guidelines (four pages) were easy to read and apply to clinical practice.

Dr Marc Twagirumukiza (Rwanda) presented strategies for cardiovascular risk assessment of hypertensive patients in low-resources settings. The Framingham and other similar studies provide the basis for the equations upon which many of the existing cardiovascular risk (CVR)-score algorithms have been developed, however such risk-profiling charts lack universal applicability. Particularly in low-resource countries, the major drawbacks to existing CVR-score algorithms include the selection and definition of the risk factors to be included in given specific populations,[10] but also the required laboratory tests, which are not always accessible or available in local settings.[11]

The Community Observational Study, Bukavu ObServ Cohort Study, which will follow a population from 2012 to 2021 and assess the impact of risk factors in an African population, will address these challenges and provide risk factors to be included in a tailored CVR algorithm. However this may not help for the urgent up-coming guideline process.

In recent studies, Gaziano and co-authors[12] documented how we can address the lack of cholesterol levels in the Framingham score algorithm. Beyond this CVR profiling challenges, the presenter documented the role of affordability of medicines in African settings (Peer and others 2014), and within the medicines cost scope, the quality of hypertension drugs was also discussed.[13,14]

Finally, the crucial question to be addressed by the hypertension management guideline is to establish what the management strategy could be for hypertension in African settings within the context of limited resources, to reduce the stroke, and heart and renal complications. Here the task-shifting process and the contribution of trained non-physician healthcare workers was identified as one approach among others to reliably and effectively assess cardiovascular risk in primary care settings (where there are no attending physicians) and detect subjects to be referred to qualified health facilities.[14]

Prof Alta Schutte (South Africa) presented the American Society of Hypertension (ASH)/International Society of Hypertension (ISH) clinical practice guidelines for management of high BP, a 12-page document published in 2014 with an easy-to-follow algorithm. She made mention of the fact that these guidelines specifically consider hypertension in black patients to be common, to occur at a younger age, to tend to cause more severe complications such as stroke and renal disease, and to respond well to calcium channel blockers (CCBs) and diuretics, and that blacks have a tendency to be salt sensitive. It was however noticeable that the ASH/ISH recommendations for black patients conflicted with those from JNC 8.

Prof Albertino Damasceno (Mozambique) suggested ways to formulate recommendations in an actionable way in Africa. The

best ways would include primary prevention, with integrated care for chronic diseases from primary healthcare with task shifting, use of the global risk strategy (move the curve left, reduce mortality), use of therapies that are available, cheap and effective (diuretics and CCBs), and a long-term monitoring strategy aimed at improving long-term compliance of the patients.

Prof Basden Onwubere (IFHA, Nigeria) called the attention of the group to how to resist the temptation of writing a textbook. Desirable attributes of a guideline would be validity, reproducibility, clarity, clinical applicability and flexibility. Meticulous documentation of evidence is a key step. Guidelines should be clearly written and concise enough, without losing important evidence-based messages. Proper scoping ensures that target professional groups are guided by guidelines when developed, and not controlled or confused. Regular reviews of guidelines should be scheduled.

Prof Neil Poulter reviewed the methodology for guideline development, the act of translating evidence into recommendations, and defining the strength of recommendation. Consideration needs to be given to the approach to be used; 'systematic or comprehensive'. The systematic approach is complex, time and resource consuming, and possibly duplicates what has already been done. Recommendations are then graded as high, moderate and low according to the level of evidence. It is remarkable that only two HT guidelines have really followed a systematic review process, the NICE in 2011, and the JNC 8 in 2013.

A comprehensive guideline addresses the majority, if not all clinical questions relevant to the topic. The pragmatic approach refers to substantial bodies of work and reflects on those areas of perceived difference (due to difference in target audience or more recent evidence). Consensus (expert opinion) is a substantial and crucial aspect that is well accepted in this methodology. A good option for PASCAR might be in between the two approaches, more of a pragmatic-comprehensive approach, and to adopt the WHF hypertension roadmap.

Overall discussion and ways forwards

The group recognised the urgent need to develop a hypertension roadmap for Africa that will help improve BP control and reduce renal disease, heart disease and stroke in the region. A consensus was achieved on the practicability of the WHF global hypertension roadmap, which could be a reference guide for the PASCAR group. It was observed that due to lack of evidence, there was controversy on whether and how patients with grade 1 hypertension (systolic of 140–159 and/or diastolic of 90–99 mmHg) should be managed.

A consensus was reached on PASCAR's commitment to design and conduct clinical trials that would answer these questions in the future, as the research element of the roadmap process. The group felt that for the urgent step of developing an African guideline for the management of hypertension, it was appropriate to focus additional effort on locally available national/international African guidelines or data rather than redoing international work (such as comprehensive guidelines).

Questions to be addressed in the African guidelines of the African roadmap would include: (1) in African adults with hypertension, does initiating antihypertensive pharmacological therapy at specific BP thresholds improve health outcomes? (2) In African adults with hypertension, does treatment with antihypertensive pharmacological therapy to a specified BP goal lead to improvements in health outcomes? (3) In African adults with hypertension, do various antihypertensive drugs or drug classes differ in comparative benefits and harms on specific health outcomes? (4) In African adults with hypertension, what is the best cost-effective antihypertensive drug in the primary care setting?

The guidelines will be a single document with a summary, targeting adult hypertension and written for primary care level of practice. The document will be valid, reproducible, clear, simple and concise enough to be easily adopted by various African countries, implemented, and monitored regularly. Algorithms for primary healthcare workers will be developed and different formats of the documents are desirable in accordance with each healthcare level.

The following key stakeholders will be included in the development process: PASCAR, IFHA, AFRAN, national professional societies (HT and cardiac), WHF, WHO-AFRO (chronic disease branch), WHO-EMRO, Africa Union (social cluster of the AU), all policy makers, International Society of Hypertension in Blacks (ISHIB), World Hypertension League

Group photo. Front (left to right): Benedict Anisiuba (PASCAR Council, Nigeria), BA Serigne (PASCAR Council, Senegal), Ana Olga Mocumbi (PASCAR Council, Mozambique), Bongani Mayosi (president PASCAR), Dike Ojji (co-chair, PASCAR Hypertension Task Force), Anastase Dzudie (chair, PASCAR Task Force on Hypertension).

Middle (left to right): Toure Ali Ibrahim (PASCAR Council, Niger), Abdoul Kane (Senegal), Albertino Damasceno (Mozambique), Elijah Ogola (PASCAR Council and chair of Hypertension programme in Kenya), Basden Onwubere (president elect, IFHA), George Nel (PASCAR executive officer).

Back (left to right): Awad Mohamed (PASCAR Council, Sudan), Bryan Rainer (ex-officio president, South Africa Hypertension Society), Ruth Cornick (South Africa), Marc Twagirumukiza (African Society of Hypertension Initiative), Aletta Schutte (president, Southern African Hypertension Society), and Neil Poulter (co-chair, World Heart Federation Working Group on the Hypertension roadmap).

(WHL), ISH (low- and middle-income countries), and ESH (low- and middle-income countries). Finally, the group adopted a timeline, activities and deliverables in the development of the roadmap with guidelines that are relevant to Africa over an 18-month period.

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