

## On the occasion of world hypertension day 2014: A nephrology point of view

Sir,

The World Hypertension Day celebrates 17<sup>th</sup> of May of each year by focusing on an important global health issue.<sup>[1]</sup> For World Hypertension Day 2014, they have selected “know your blood pressure” as the theme.

Many surveys from various countries throughout the world pointed out that the public’s awareness of their blood pressure levels was very inadequate.<sup>[1,2]</sup> Even in highly developed, resource-rich populations with high-quality health care systems, alertness of high-blood pressure was not enough. While in many of the developing countries, there was transition from infectious to some other chronic diseases; however, the prevalence of high-blood pressure is increasing in their population.<sup>[1-4]</sup> Together, public alertness of high-blood pressure in the low- and middle-income countries is quite miserable, while many surveys stated that the high-blood pressure is the leading cause of death worldwide.<sup>[2-5]</sup>

World Hypertension Day’s focus on them as “know your blood pressure” in 2014 is intended:

To raise recognition of the causes and consequences of high-blood pressure

To provide information on how to prevent high-blood pressure and associated complications<sup>[1-6]</sup>

To incite persons to check their blood pressure and to follow the advice of health care professionals

To incite self-care to prevent high-blood pressure

To make blood pressure assessment inexpensive to all<sup>[1,3-8]</sup>

High-blood pressure is caused by a mixture of genetic predisposition and an unhealthy diet high in saturated fats, free sugars and sodium. In fact, epidemiological investigations have clearly detected that high-blood pressure is a “silent killer,” with no warning signs. Hence, knowing that one’s blood pressure is elevated permits that individual to take some action to abate the rising blood pressure, therefore, preventing potential target-organ damage, comprising renal failure,

myocardial infarction and cerebrovascular stroke, while the number of studies had detected that early diagnosis and treatment of high-blood pressure led to better quality of life and increased longevity.<sup>[2-8]</sup>

Thus, World Hypertension Day also reminds us of the following facts;

High-blood pressure is largely preventable and remains a constant threat to the health

High-blood pressure is easy to screen

Efficient lifestyle modification and drug treatments are available that could control high-blood pressure in many countries.<sup>[1-4,7-10]</sup>

Chronic renal failure is a worldwide public health problem, and high-blood pressure is one the most important cause of damage to the kidneys. The incidence and prevalence of renal failure are increasing and are associated with poor consequences and high cost. The activity of the renin-angiotensin system (RAS) plays a central role in the pathogenesis of chronic renal failure, high-blood pressure and cardiovascular complications.<sup>[10-20]</sup> Hence, as a nephrology point of view, targeting the RAS is a logical therapeutic approach. In fact interruption of the RAS using type 1 angiotensin II receptor blockers or angiotensin-converting enzyme inhibitors alone or in combination, has become an appropriate therapeutic strategy to decrease blood pressure, proteinuria and most importantly to slow the progression of chronic renal failure.<sup>[10-20]</sup>

The concept of kidney protection during the treatment of high-blood pressure has evolved significantly, driven by improved understanding of the pathophysiology of chronic kidney disease and the advent of novel treatment options.<sup>[12-18]</sup> Glomerular hyperfiltration, high-blood pressure and proteinuria represent key mediators of chronic kidney disease progression. It is increasingly documented that high-blood pressure may actually be pathological and etiological in chronic kidney disease progression, and many cases is not symptomatic.<sup>[12-18]</sup> It commences a sequence of processes, involving activation of proinflammatory and sclerosing signaling pathways in the glomeruli with transmission of the process to the tubulointerstitial area and progression to end-stage renal failure. Thus, it seems that any modality for the treatment of hypertension should base on kidney protection too.<sup>[10-22]</sup> As World Hypertension Day reminds us, still remains a great deal of work to be conducted. As mentioned above, working with other health staffs and family physicians, will play a great role in certifying

individuals benefit from optimum blood pressure levels in the future. Noticeably, with an aging population and an epidemic of obesity, the prevalence of high-blood pressure will increase. We need to redouble our attempts to prevent high-blood pressure by encouraging for our governments to introduce healthy public policies and by inciting our patients to live healthier lives, maintain ideal weight, exercise regularly, avoiding excess sugary drinks, avoid smoking, and reduce the sodium of the diet.<sup>[1-8,19]</sup>

On the other hand by improved screening and diagnostic attempts, and judicious use of antihypertensive using renoprotective drugs, we will continue to reduce the incidence of strokes, heart failure and cardiac attacks, therefore, our patients will be able to enjoy of their advanced age more fully.<sup>[17-22]</sup>

Finally as a clinician, there is many works to do, for all of us involved in high-blood pressure management and health care. Voluntary health agencies, nongovernmental organizations and professional societies can focus more efforts on serving patients, and health professionals have better tools for managing high-blood pressure. Furthermore, governments undoubtedly have a role in adopting health policies that support prevention of disease and using health resources wisely in this issue. Health policies are making the obtainable therapies accessible to all people, which can be a key step in improving our current condition. And lastly, persons, including patients, researchers and clinicians, can commit to doing all in their ability to improve high-blood pressure care.<sup>[17-25]</sup>

## AUTHORS' CONTRIBUTION

HN contributed in preparation of the draft, approval of the final version of the manuscript, and agreed for all aspects of the work. MRA contributed in revising the manuscript, approval of the final version of the manuscript, and agreed for all aspects of the work. MRA contributed in revising and editing the paper, approval of the final version of the manuscript, and agreed for all aspects of the work

**Hamid Nasri, Mohammad-Reza Ardalan<sup>1</sup>,  
Mahmood Rafieian-Kopaei<sup>2</sup>**

Isfahan Kidney Diseases Research Center, Isfahan University of Medical Sciences, Isfahan, <sup>1</sup>Chronic Kidney Disease Research Center, Tabriz University of Medical Sciences, Tabriz, <sup>2</sup>Medical Plants Research Center, Shahrekord University of Medical Sciences, Sharhokord, Iran

**Address for correspondence:** Prof. Mahmood Rafieian-Kopaei, Medical Plants Research Center, Shahrekord University of Medical Sciences, Sharhokord, Iran.  
E-mail: rafieian@yahoo.com

## REFERENCES

- Kearney PM, Whelton M, Reynolds K, Muntner P, Whelton PK, He J. Global burden of hypertension: Analysis of worldwide data. *Lancet* 2005;365:217-23.
- Mittal BV, Singh AK. Hypertension in the developing world: Challenges and opportunities. *Am J Kidney Dis* 2010;55:590-8.
- Hajivandi A, Amiri M. World kidney day 2014: Kidney disease and elderly. *J Parathyroid Dis* 2014;2:5-6.
- Shahbazian N, Shahbazian H, Mohammadjafari R, Mousavi M. Ambulatory monitoring of blood pressure and pregnancy outcome in pregnant women with white coat hypertension in the third trimester of pregnancy: A prospective cohort study. *J Nephropharmacol* 2013;2:5-9.
- Hernandez GT, Nasri H. World kidney day 2014: Increasing awareness of chronic kidney disease and aging. *J Renal Inj Prev* 2014;3:3-4.
- Asayama K, Thijs L, Brguljan-Hitij J, Niiranen TJ, Hozawa A, Boggia J, *et al.* Risk stratification by self-measured home blood pressure across categories of conventional blood pressure: A participant-level meta-analysis. *PLoS Med* 2014;11:e1001591.
- Campbell NR, Petrella R, Kaczorowski J. Public education on hypertension: A new initiative to improve the prevention, treatment and control of hypertension in Canada. *Can J Cardiol* 2006;22:599-603.
- Eriksson JG, Forsén TJ, Kajantie E, Osmond C, Barker DJ. Childhood growth and hypertension in later life. *Hypertension* 2007;49:1415-21.
- Baradaran A. Primary hyperparathyroidism and kidney; recent findings. *J Parathyroid Dis* 2014;2:7-10.
- Chockalingam A, Campbell NR, Fodor JG. Worldwide epidemic of hypertension. *Can J Cardiol* 2006;22:553-5.
- Amiri M, Nasri H. Secondary Hyperparathyroidism in chronic kidney disease patients; current knowledge. *J Parathyroid Dis* 2014;2:1-2.
- Chockalingam A. World hypertension day and global awareness. *Can J Cardiol* 2008;24:441-4.
- Rafieian-Kopaei M, Nasri H. Serum lipoprotein (a) and atherosclerotic changes in hemodialysis patients. *J Renal Inj Prev* 2013;2:47-50.
- Nasri H. The awareness of chronic kidney disease and aging; the focus of world kidney day in 2014. *J Nephropharmacol* 2014;3:1-2.
- Nasri H. Impact of diabetes mellitus on parathyroid hormone in hemodialysis patients. *J Parathyroid Dis* 2013;1:9-11.
- Ardalan MR, Nasri H. Acute kidney injury; the focus of world kidney day in 2013. *J Nephropharmacol* 2013;2:15-6.
- Nasri H. Elevated serum parathyroid hormone is a heart risk factor in hemodialysis patients. *J Parathyroid Dis* 2013;1:13-6.
- Nasri H. On the occasion of the world diabetes day 2013; diabetes education and prevention; a nephrology point of view. *J Renal Inj Prev* 2013;2:31-2.
- Campbell NR, Chen G. Canadian efforts to prevent and control hypertension. *Can J Cardiol* 2010;26 Suppl C:14C-7C.
- Nayer A, Ortega LM. Catastrophic antiphospholipid syndrome: A clinical review. *J Nephropathol* 2014;3:9-17.
- Ardalan MR, Sanadgol H, Nasri H, Baradaran A, Tamadon MR, Rafieian-Kopaei R. Impact of vitamin D on the immune system in kidney disease. *J Parathyroid Dis* 2013;1:17-20.
- Mubarak M, Nasri H. What nephrologists need to know about antiphospholipid syndrome-associated nephropathy: Is it time for formulating a classification for renal morphologic lesions? *J Nephropathol* 2014;3:4-8.
- Gaziano TA, Bitton A, Anand S, Weinstein MC, International Society of Hypertension. The global cost of nonoptimal blood pressure. *J Hypertens* 2009;27:1472-7.
- Nasri H. Correlation of serum magnesium with serum levels of 25-hydroxyvitamin D in hemodialysis patients. *J Parathyroid Dis* 2014;2:11-3.
- Nasri H. Antiphospholipid syndrome-associated nephropathy: Current concepts. *J Renal Inj Prev* 2013;2:1-2.