VOLUME 39, NUMBER 6
June 2022

ISSN 0189 - 160X

WAJM

WEST AFRICAN JOURNAL OF MEDICINE

ORIGINALITY AND EXCELLENCE IN MEDICINE AND SURGERY

OFFICIAL PUBLICATION OF
THE WEST AFRICAN COLLEGE OF PHYSICIANS *AND*
WEST AFRICAN COLLEGE OF SURGEONS

www.wajmed.org

WEST AFRICAN JOURNAL OF MEDICINE

TABLE OF CONTENTS

WEST AFRICAN JOURNAL OF MEDICINE

EDITORIAL

Overview of Primary Hypertension: A Clarion Call

International Society of Hypertension (HTN) recommends that HTN be diagnosed when a person's (>18 years old) systolic blood pressure (SBP) in the office or clinic is ≥140 mm Hg and/or their diastolic blood pressure (DBP) is ≥90 mm Hg, following repeated measurements.[1] In children and adolescents however, HTN is diagnosed when the average clinic measured SBP and/or DBP are equal to or above the 95th percentile values (on the basis of age, sex, and height percentiles), also following repeated measurements, and is further classified as stage 1 (130/80 to 139/89 mm Hg) or stage 2 (≥140/90 mm Hg) HTN.[2]

Systemic HTN may be categorised as either primary (essential) or secondary. Primary HTN is diagnosed in the absence of an identifiable secondary cause, and accounts for 90–95% of adults with HTN, while secondary HTN accounts for around 5–10% of the cases.[3] Primary HTN may be attributed to multiple factors, including genetic predisposition, excess dietary salt intake and adrenergic tone, that may interact to produce HTN. Other factors that can raise the risk of having primary HTN include obesity, diabetes mellitus, stress, insufficient intake of potassium, calcium, and magnesium, lack of physical activity, and chronic alcohol consumption.[1,2]

Prevalence of primary HTN rises with age, irrespective of the type of BP measurement and the operational thresholds used for diagnosis. In developed and developing countries alike, essential HTN affects 25–35% of the adult population, 60–70% of those beyond the seventh decade of life, and up to 2.2% to 3.5% of children and adolescents (higher rates among those who have overweight and obesity).[2,4] Importantly, elevated BP in childhood and adolescence increases the risk for adult HTN and metabolic syndrome.[2] Adolescents with elevated BP progress to HTN at a rate of 7% per year, and elevated body mass index predicts sustained BP elevations.[5] In addition, young patients with HTN are likely to experience accelerated vascular aging, and BP-related cardiovascular (CV) damage in youth are known to predict CV events in adults, making it crucial to diagnose and treat HTN early.[2] For these reasons, it is recommended that children younger than 3 years should have BP measurements taken at well-child care visits if they are at increased risk for developing HTN (such as those with history of prematurity or small for gestational age, very low birth weight, congenital heart disease (repaired or unrepaired) or recurrent urinary tract infections, haematuria, or proteinuria), while BP should be measured annually in all children and adolescents ≥3 years of age.[2] However, BP should be checked in all children and adolescents ≥3 years of age at every health care encounter if they have obesity, are taking medications known to increase BP, have renal disease, a history of aortic arch obstruction or coarctation, or diabetes.[2] Of note, there is paucity of quality data on HTN in children and adolescents in Nigeria.

In this issue of the Journal, Kayode and colleagues in an article entitled "Primary hypertension with target organ damage among apparently healthy secondary school students in Osogbo, South-Western Nigeria", have commendably attempted to answer the clarion call.[6] The authors aimed to determine the prevalence of primary HTN and its risk factors among systematically selected, 404 apparently healthy secondary school students, in Osogbo, Osun State, Nigeria. BPs were carefully measured at two different visits and all subjects were screened for secondary causes of HTN, in line with standard recommendations.[2] They obtained an overall prevalence of HTN and pre-HTN of 3.5% and 6.2% respectively in the studied population, without gender bias. The subjects were between the ages of 10 and 19 years, 60% were females, 20% were obese and 21% had left ventricular hypertrophy (LVH) on echocardiography. Obesity, consump-tion of extra-uncooked salt, high parental education and schooling in privately-owned secondary schools were all significantly more common among subjects with elevated BPs than those with normal BP readings. However, standard statistical analyses to determine independent risk factors for HTN in the studied population were not carried out. The main strength of this study is in its careful methodology to determine prevalence of primary HTN in the adolescent population using office BP measurements and exclusion of secondary HTN. Secondly, the study confirmed that elevated BP is not uncommon in the studied population of adolescents, and might be influenced by relatively high socioeconomic status. Thirdly, the study showed that LVH is an early complication of HTN that can be easily missed if echo-cardiography was not carried out. The implications of these results are that BP measurements should be routine among the adolescents, in line with standard recommendations, and those with elevated BP should be further evaluated using echocardiography for risk stratification. The study can also justify future national studies on the subject, perhaps employing an ambulatory

BP measurement strategy, which has among others, the additional advantages of describing white coat and masked subtypes of HTN. It is however very important for the authors to subsequently reanalyse their data to determine the independent risk factors for HTN in the studied population, using logistic regression models.

REFERENCES

1. Unger T, Borghi C, Charchar F, Khan NA, Poulter NR, Prabhakaran D, *et al.* 2020 International Society of Hypertension Global Hypertension Practice Guidelines. *Hypertension.* 2020; **75:** 1334–1357.
2. Flynn JT, Kaelber DC, Baker-Smith CM, Blowey D, Carroll AE, Daniels SR, *et al.* Clinical Practice Guideline for Screening and Management of High Blood Pressure in Children and Adolescents. *Paediatrics.* 2017; **140:** e20171904.
3. Hajjar I, Kotchen TA. Trends in prevalence, awareness, treatment, and control of hypertension in the United States, 1988–2000. *JAMA.* 2003; **290:** 199–206.
4. Staessen JA, Wang J, Bianchi G, Birkenhäger WH. Essential hypertension. *Lancet.* 2003; **361:** 1629–1641.
5. Falkner B, Gidding SS, Portman R, Rosner B. Blood pressure variability and classification of prehypertension and hypertension in adolescence. *Pediatrics.* 2008; **122:** 238–242.
6. Kayode OV, Oninla SO, Okeniyi JAO, Oyedeji G, Odeyemi AO, Abayomi OA. Primary hypertension with target organ damage among apparently healthy secondary school students in Osogbo, south-western Nigeria. *West Afr J Med.* 2022, in press.

Professor Kamilu Musa Karaye
Department of Medicine,
Bayero University &
Aminu Kano Teaching Hospital,
Kano, Nigeria.
Email: kkaraye@yahoo.co.uk Or
kmkaraye.med@buk.edu.ng