

May Measurement Month 2018: an analysis of blood pressure screening results from Republic of the Congo

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KEYWORDS

Hypertension;
Blood pressure;
Screening;
Black Africans;
Sub-Saharan Africa

To determine the proportion with hypertension among opportunistic screenees in the Republic of the Congo. This cross-sectional study was conducted in Republic of the Congo in May 2018. This screening was done in urban and rural areas that included Brazzaville, Pointe-Noire, District of Ngoyo, and District of Nkayi. The study protocol was provided by the International Society of Hypertension, and local ethical clearance was obtained. The data were processed by the May Measurement Month global project team. In total, 6169 people were screened, 2418 of which were female (39.2%). Most of the people screened were from 18 to 29 years old ($n=4184$, 67.8%). The proportion of hypertension found was 22.2% ($n=1371$). Among the hypertensive patients, 40.2% were aware of their hypertension, but only 493 (36.0%) were on antihypertensive treatment, and only 16.0% were controlled. The frequency of diabetes was 2.2% ($n=135$), 2.3% ($n=139$) had a previous stroke, and overweight and obesity were present in 15.4% ($n=952$) and 7.3% ($n=449$), respectively. Hypertension is frequent in the Republic of the Congo, and levels of awareness, treatment and control are low. Actions are needed to increase access of all to a correct diagnosis and treatment of hypertension to achieve universal health coverage.

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Introduction

Hypertension is a global public health problem, and its prevalence is increasing.¹ Global screening for hypertension in the May Measurement Month (MMM) 2018 campaign has shown a global proportion of 33.4% of hypertensive people, and 24.8% in sub-Saharan Africa.¹

Before 2018, only two screening activities for hypertension had taken place in Congo-Brazzaville. The first using the World Health Organization Step-Wise protocol in 2004, and the second integrated in the MMM17 campaign, but both in the capital, Brazzaville.^{2,3} In view of the excitement of the population to participate in screening during MMM17, we decided to extend the screening process throughout our country in MMM18. The aim of this screening was to increase the levels of awareness of hypertension among the population, to get data support, and future advocacy activities by our health authorities.

Methods

The co-ordination of MMM18 in Congo-Brazzaville was provided by B.F.E.M. Clearance from the National Ethical Committee in Health Sciences was obtained.

A total of 19 sites were selected, distributed among four localities: Brazzaville (12), Pointe-Noire (4), Ngoyo district (1), and Nkayi (2). The total number of volunteers that participated in this screening activity was 43. Several local pharmaceutical companies supported this activity. Volunteers were previously trained using the materials provided by the International Society of Hypertension. Mobilization of the population was done a week before through public announcements.

The duration of screening was 3 weeks, from May to June 2018. Screening was done consecutively, first in Brazzaville, then in Nkayi, and Pointe-Noire. The equipment used included: measuring rod and scales (GIMA® Italy), as well as OMRON® (M3 HEM7131 Japan) automatic device (donation by OMRON). Blood pressure (BP) was taken three times, and the measures analysed were the mean of the 2nd and 3rd readings. Definition of hypertension was systolic BP (SBP) ≥ 140 mmHg or diastolic BP (DBP) ≥ 90 mmHg or on treatment for hypertension. Uncontrolled BP was defined as an individual on antihypertensive medication having SBP ≥ 140 mmHg or DBP ≥ 90 mmHg. The weight and height were measured or estimated according to the MMM recommendations. No local additional item was included to the standard data in the MMM protocol.

Data were collected via Microsoft Excel and hard copy, and cleaned locally by B.F.E.M., J.K.M.B., and Mr Cesar Nzaou. Data were analysed centrally by the MMM global project team and multiple imputation performed to impute the mean of readings 2 and 3 where this was missing.¹

Results

In total, 6169 people were screened, 2418 female (39.2%). The mean age was 30.9 ± 14.7 years. People aged from 18 to 29 years were 4184 (67.8%). The majority of screened

people were Black Africans ($n = 5793$, 93.9%), and most had not participated in MMM17 ($n = 5193$, 84.2%). The numbers reported being on antihypertensive treatment was 493 (8%), having diabetes was 135 (2.2%), and having had a previous stroke was 139 (2.3%). The mean body mass index was 22.6 ± 4.3 kg/m². The number that were overweight was 952 (15.4%) and obese was 449 (7.3%).

After multiple imputation, the proportion with hypertension was 22.2% ($n = 1371$). Of those not on antihypertensive medication, 15.5% were found to have hypertension, and of those on antihypertensive medication, 55.5% were uncontrolled. In total, 40.2% of hypertensives were aware, 36% were on medication, and of those on medication, 44.5% had a controlled BP. Of all hypertensives, only 16% were controlled. After standardizing for age and sex, the proportion with hypertension was higher at 34.4%, 26.8% excluding those on hypertensive medication, and 48.3% uncontrolled in those on antihypertensive medication. The difference in mean SBP, was significant in people with known hypertension, on antihypertensive medication, diabetes, and previous myocardial infarction compared to those without the conditions (Supplementary material online, *data file*). Significant differences in DBP, were apparent among people with known hypertension, being on antihypertensive medication and diabetes compared to those without (Supplementary material online, *data file*).

Discussion

In view of the results of MMM18, it turns out that they are very divergent from those reported by MMM17. Indeed, the proportion of hypertension detected was 41% in MMM17 and 22.2% in MMM18. This difference may be due to the high proportion of young people (under 30 years old) with a mean age of 30.9 years in MMM18, whereas for MMM17 the mean age was 47.6 years, but also to the fact that in MMM18 screening was extended in rural and semi-urban areas (Pointe-Noire, Ngoyo, and Nkayi). Only 36% of people with hypertension were treated and 16% were poorly controlled according to MMM18 results in the Republic of the Congo, in keeping with other results from sub-Saharan Africa.⁴

It should be noted that the prevalence reported in Congo is similar to that reported for sub-Saharan Africa as a whole from MMM18 (24.8%).¹ It should be noted that the cities included, are all located in South and South-West Congo.

In the Republic of the Congo, 49% of the population is very low income according to the World Bank.⁵ Despite calls for public authorities to promote healthy lifestyle measures, and awareness of cardiovascular risk factors, the impact remains low. This is linked to the low standard of living of the population with limited access to care.^{4,5} In addition, the quality of drugs available for the treatment of hypertension remains questionable.⁶ All these elements contribute to increase the morbidity and mortality related to hypertension.

Currently, in the Republic of the Congo, the installation of universal health coverage is underway and will undoubtedly improve adherence and access to treatment.⁷

The results of MMM18 in the Republic of the Congo encourage us to advocate with the Ministry of Health, for the establishment of a programme to fight against hypertension and its complications. We hope that the MMM activity will grow, to cover the whole extent of the national territory.

Conclusion

The prevalence of hypertension is high in the Republic of Congo. The proportion of hypertensive people treated is low, and people treated are poorly controlled. Actions for screening the entire population are necessary, to increase access to and promote universal health insurance. The establishment of a national programme to fight against hypertension and its complications is desired.

Supplementary material

[Supplementary material](#) is available at *European Heart Journal Supplements* online.

Acknowledgements

Maurille Elenga, Chany Ngoula, Richard Loumingou-Moukengué, Gankou Mireille, Ntsimba Francesca, Ngalou Girese, Ntsoumou Eric, Loubayi Guy, Mme Bassafoula, Mme Ntondo, Mr Engambe, Eloumba Sam, Lambert Kitembo, Ayah Stéphane, Jean-Rosaire Ibara (Head of Marien Ngouabi University), Pascal Ongoka (General Secretary of Marien Ngouabi University), Cesar Nzaou, Constant Gongault (Fondation Schnell of Brazzaville), Lesage Nkounkou, Cesar Obambo, Sylvie Nzaou, Charlande Mouanga, Gelina Moukouabio, Evangelic church of Nkayi, Solange Mongo Ngamami, and Fabrice Otiobanda.

Conflict of interest: none declared.

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