PREVALENCE AND RISK FACTORS ASSOCIATED WITH HYPERTENSION AMONG URBAN COMMUTERS IN NIGERIA, SOUTH AFRICA AND ZIMBABWE

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ABSTRACT

Background: Hypertension is one of the key risk factors for cardiovascular disease that has affected over one billion people worldwide, and continues to kill about nine million people each year (1). Hypertension is a common problem among Sub-Saharan African countries, and comes with serious economic implications due to its underdiagnosis and gravity of complications (2). This study aimed to assess hypertension prevalence and associated risk factors among urban commuters in Nigeria, South Africa and Zimbabwe.

Methods: The study analysed secondary data from the CARFA Study: An Evaluation of Cardiovascular Risk Factors among commuter population in Nigeria, South Africa and Zimbabwe that used face to face structured questionnaires adapted from the WHO STEPwise surveillance approach for NCDs. This approach uses a standardized surveillance tool developed by the World Health Organisation to collect "self-reported" data on NCDs including "demographic and behavioural risk factors," in addition to physical and biochemical measures. The study sample included all individuals found in each of the selected transit areas who used public transport from 2017 to 2019 in the three countries. Pregnant women and mentally-disabled individuals were excluded from the study.

A sample of 1384 participants who had all the variables of interest were selected from a CARFA total sample of 1425 individuals and included in this study. Data on demographic, socioeconomic, anthropometric and behavioural factors were collected. An average of two blood pressure readings taken with 2-minute intervals after 5-minute rest was used. Individuals that were classified as hypertensive were those with systolic blood pressure (BP) ≥ 140mmHg and/or diastolic BP ≥ 90

mmHg or those taking antihypertensive medication. Data analyses were conducted in STATA 14. Key characteristics were described through the hierarchical approach by using summary statistics and multivariable logistic regressions to identify key-country specific predictors of hypertension.

Results: In total, the study had 1384 participants, with a mean age of 35.9 years ± 11.3 years. Overall, 324 (23.4%) of the participants were hypertensive, whilst 596 (43.1%) were prehypertensive and 464 (33.5%) were normotensive. The highest proportion of hypertensive participants was found in South Africa (28.6%) followed by Zimbabwe (26.7%) and Nigeria with the least hypertensive participants (13%). Results obtained from the hierarchical adjusted multivariable logistic regression models revealed that, overall, being 60 years and older (AOR = 2.10; 95% CI: 1.16 – 3.87), having a family history of hypertension (AOR = 1.41; 95% CI: 1.03 – 1.92), being a current smoker (AOR = 1.34; 95% CI: 1.01 – 1.78), overweight (AOR = 1.68; 95% CI: 1.24 – 2.27), obesity (AOR = 1.54; 95% CI: 1.08 – 2.20), self-reported diabetic status (AOR = 1.62; 95% CI: 1.16 – 2.26) and self-reported hypertensive status (AOR = 1.89; 95% CI: 1.39 – 2.58) were significantly associated with hypertension.

In Nigeria, obesity (AOR = 7.09, 95% CI: 2.84 – 17.70) and self-reported hypertensive status (AOR = 12.13, 95% CI: 4.35 – 33.82) were significantly associated with hypertension. In South Africa, having primary education (AOR = 0.44, 95% CI: 0.21- 0.95) and consuming vegetables three to four times a week (AOR = 1.66, 95% CI: 1.04 – 2.65) was significantly associated with hypertension, whilst in Zimbabwe consuming fruits three to four times a week (AOR = 0.55, 95% CI: 0.32 – 0.94) was the only factor significantly associated with hypertension.

Conclusion: Hypertension prevalence was high in South Africa and Zimbabwe, but relatively low in Nigeria. Risk factors associated with hypertension differed by country. Future research should seek to establish causal pathways through which various risk factors lead to hypertension in different SSA countries. Public health policies and intervention programs should focus on early disease detection and context specific lifestyle modifications to reduce the hypertension burden.