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Regional variation in incidence and mortality due to hypertension in Sao Tome and Principe

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Background: The analysis of incidence and mortality due to hypertension (HT) provides statistical data for addressing public health programs, particularly in low-income countries where poor health systems impose constraints to address non-communicable diseases (NCDs). This study aims to assess the geographic pattern of incidence and mortality due to HT in Sao Tome and Principe (STP).

Methods: This is a descriptive ecological study. Aggregated data on new cases of and deaths due to HT by gender, age-group and district (2022-2023) were extracted from the Health National Database (STP Ministry of Health). Age-standardized incidence and mortality rates (ASIR and ASMR) and respective 95% confidence interval (95%CI) were obtained. Mortality-to-incidence ratio (MIR) was computed by

district (lower values indicate better quality of care). Comparison between districts was done through standardized incidence ratios (SIR) and respective p-value. Analyses were stratified by gender.

Results: ASIR and ASMR per 100,000 were, respectively, 1168.9 (95%CI:1103.3-1237.6) and 76.8 (95%CI:62.0-96.2) among men and 2460.6 (95%CI:2365.0-2559.0) and 99.7 (95%CI:81.4-121.6) among women. Incidence of HT was significantly higher than expected ($p < 0.001$) in Agua Grande, Caue and Lemba with SIR varying from 122.8% (Agua Grande) to 201.1% (Caue) in men and from 125.1% (Lemba) to 224.1% (Caue) in women. Instead, Mé-Zochi presented much lower incidence than expected for both, men (SIR=43.1%; $p < 0.001$) and women (SIR=38.4%; $p < 0.001$). Large differences between districts were observed in MIR, varying from 0% (Caue and Lobata) to 84% (Mé-Zochi) in men and from 0% (Lobata) to 57% (Mé-Zochi) in women.

Conclusions: According to our findings there is, not only, a high incidence rate of HT, but also regional variation in this rate, deserving particular attention from policy-makers. Regional variation in hypertension incidence could be partially explained by differences in the quality of healthcare services.

Key messages:

- Awareness should be given to the high incidence of hypertension demanding preventive strategies in the field of public health.
- Public health strategies should address the quality of care in regards to the prevention, diagnosis and monitoring of hypertension.