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Association of food environment and hypertension risk factors in dar es salaam, Tanzania

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Abstract

Background: Hypertension is rising rapidly in sub-Saharan Africa, driven by urbanisation, dietary transitions, and increasingly obesogenic food environments. In Tanzania, evidence linking the urban food environment to hypertension risk remains limited despite the growing burden of diet-related non-communicable diseases (DRNCDs). This study investigated the association between the urban food environment and hypertension risk factors among adults in low-income settings in Dar es Salaam.

Methods: A cross-sectional study was conducted among 341 adults across four wards in Ilala Municipal Council. Sociodemographic characteristics, food outlet exposure, and food security indicators were collected using geocoded Maptionnaire surveys. Anthropometric measurements included weight (digital SECA scale), height (SECA stadiometer), and waist and hip circumferences (non-elastic SECA tape). Body mass index (BMI) and waist-hip ratio were derived using WHO-standardised protocols. Blood pressure was measured following WHO STEPS guidelines using an automated monitor. Descriptive statistics summarised socio-demographic characteristics. Continuous variables such as age and BMI were presented as means and standard deviations. Chi-square tests and multivariable logistic regression were used to identify predictors of hypertension.

Results: Females comprised 70 % of participants, and 50 % were aged 35–59 years. About 52 % of households were low-income earners. Approximately 87 % of participants were exposed to both healthy and unhealthy food outlets, and 60 % reported consuming ready-to-eat foods outside the home. The prevalence of hypertension was 49.6 %. Overall, 59 % of participants were overweight or obese, and 60 % had abdominal obesity. Hypertension was significantly associated with increasing age (AOR = 1.1; 95 % CI: 1.0–1.1) and higher BMI (AOR = 2.3; 95 % CI: 1.4–3.7).

Conclusion: Adults in low-income urban settings of Dar es Salaam have a high burden of hypertension, associated with excess body weight and increasing age. These findings highlight the need to prioritise routine blood pressure screening and weight management programmes at the primary healthcare level, alongside promoting healthier urban food environments to reduce hypertension risk.

Keywords: Abdominal obesity, hypertension, non-communicable diseases, urban food environment