

Relationship between Waist Circumference, Diabetes Mellitus, Arterial Hypertension, and Dyslipidemia in an Angolan Population

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Introduction: Obesity, especially central obesity, is an important risk factor for the development of cardiovascular diseases. This study aimed to evaluate the relationship between waist circumference and the presence of diabetes mellitus, arterial hypertension, and dyslipidemia.

Material and Methods: This is a cross-sectional, community-based study, conducted as a sub-analysis of the CardioBengo study, in the municipality of Dande, Bengo Province, involving 2,244 individuals aged between 18 and 84 years. Structured questionnaires were applied, and sociodemographic, anthropometric, hemodynamic, and biochemical data were collected. Analyses included correlation methods, construction of ROC (Receiver Operating Characteristic) curves, and determination of optimal cut-off points using Youden's index.

Results: Waist circumference was positively associated with metabolic risk factors, especially hypertension, in both sexes, showing moderate sensitivity and specificity (area under the curve [AUC]: 0.725 in men and 0.612 in women). It was also a moderate predictor of diabetes mellitus (AUC: 0.648 in men and 0.596 in women) and hypercholesterolemia (AUC: 0.673 in men and 0.612 in women), with cut-off points ranging from 71.5 cm to 89.0 cm, depending on sex. For hypertriglyceridemia, the association was weak (AUC: 0.557 and 0.503, respectively).

Conclusion: Waist circumference is a useful indicator for identifying the risk of developing metabolic factors, especially in predicting hypertension in the Angolan population.

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