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Prevalence and determinants of metabolic syndrome: Cross-sectional survey of general medical outpatient clinics using National Cholesterol Expanded Program-Adult Treatment Panel III criteria in Botswana

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Background & Aim: Low and middle-income countries including Botswana are facing rising prevalence of obesity and obesity-related cardiometabolic complications. Very little information is known about clustering of cardiovascular risk factors in the outpatient setting during routine visits. We aimed to assess the prevalence and identify the determinants of metabolic syndrome among the general outpatients' attendances in Botswana.

Methods: A cross-sectional study was conducted from August to October 2014 involving outpatients aged ≥ 20 years without diagnosis of diabetes mellitus. A pre-coded questionnaire was used to collect data on participants' sociodemographics, risk factors and anthropometric indices. Fasting blood samples were drawn and analyzed for glucose and lipid profile. Metabolic syndrome was assessed using National Cholesterol Education Program-Adult Treatment Panel III criteria.

Results: In total, 291 participants were analyzed, of whom 216 (74.2%) were females. The mean age of the total population was 50.1 (± 11) years. The overall prevalence of metabolic syndrome was 27.1% ($n=79$) with no significant difference between the sexes (females=29.6%, males=20%, $P=0.11$). A triad of central obesity, low high-density lipoprotein-cholesterol and elevated blood pressure constituted the largest proportion (38 [13.1%]) of cases of metabolic syndrome, followed by a combination of low high-density lipoprotein, elevated triglycerides, central obesity and elevated blood pressure with 17 (5.8%) cases. Independent determinants of metabolic syndrome were antihypertensive use and increased waist circumference.

Conclusion: Metabolic syndrome is highly prevalent in the general medical outpatients' clinics. Proactive approaches are needed to screen and manage cases targeting its most important predictors.

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