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THE CAPACITY OF HEALTHCARE FACILITIES TO DIAGNOSE DIABETES AND HYPERTENSION IN SUB-SAHARAN AFRICA: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Background: There's a growing burden of complications of cardiovascular diseases(CVDs) in Sun-Saharan Africa(SSA). Hypertension and diabetes-mellitus(DM) are major contributors to this statistic and diagnostic capacity at healthcare facilities is critical for their early detection and management. This review assesses availability of essential diagnostic tools across SSA.

Methods: We searched PubMed and Embase (2014-2024) and included observational studies reporting functional sphygmomanometer and glucometer availability in SSA. Two reviewers independently screened records and extracted data. Pooled proportions were estimated using a random-effects model, with heterogeneity assessed via I^2. PROSPERO: CRD42024617252.

Results: Of 4,423 articles screened, 35 studies (covering 15,469 facilities across 13 countries) met the inclusion criteria. The pooled prevalence of having at least a functional sphygmanometer was 88% (95% CI 83%-93%; I^2:98.2%); and for functional glucometer 58% (95% CI 45%-71%. I^2: 98.9%). Glucometer availability varied markedly by region from 45% in West-Africa to 79% in Central-Africa. 94% of studies had moderate to high quality.

Conclusion: Basic diagnostic capacity for hypertension and DM remains limited. Closing the diagnostic gaps is crucial to effective CVD prevention in SSA.

Keywords: Hypertension diagnosis; Diabetes diagnosis; Sphygmomanometer availability; Glucometer availability, Sub-Saharan Africa; Health facility capacity