

Title: Prevalence of Erectile Dysfunction in Patients with Diabetes Mellitus and Its Association with Body Mass Index and Glycated Hemoglobin in Africa: A Systematic Review and Meta-Analysis

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Abstract

Background. Mortality and morbidity in patients with diabetes mellitus (DM) are attributed to both microvascular and macrovascular complications. However, there is a significant amount of variation in the primary studies on DM regarding the prevalence of erectile dysfunction (ED) in Africa. Therefore, this study was aimed to estimate the pooled prevalence of ED patients with DM and its association with body mass index (BMI) and glycated hemoglobin in Africa.

Methods. PubMed, Web of Science, Cochrane Library, Scopus, PsycINFO, African Journals Online, and Google Scholar were searched for studies that looked at ED in DM patients. A funnel plot and Egger's regression test were used to determine publication bias. The I^2 statistic was used to check heterogeneity between the studies. DerSimonian and Laird random-effects model was applied to estimate the pooled effect size. The subgroup and meta-regression analyses were conducted by country, sample size, and year of publication. Sensitivity analysis was deployed to see the effect of a single study on the overall estimation. STATA version 14 statistical software was used for the meta-analysis.

Result. A total of 13 studies with 3,501 study participants were included in this study. We estimated that the pooled prevalence of ED in patients with DM in Africa was 71.45% (95% CI: 60.22–82.69). Diabetic patients whose BMI was ≥ 30 kg/m² were 1.26 times more likely to develop ED (AOR = 1.26; 95% CI: 0.73–2.16) and whose glycated hemoglobin was <7% were 7% less likely to develop ED (AOR = 0.93; 95% CI: 0.5–5.9), although they were not significantly associated with ED.

Conclusions. The prevalence of ED in DM patients in Africa remains high. Therefore, situation-based interventions and country context-specific preventive strategies should be developed to reduce the prevalence of ED among patients with DM.

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