

Acute Kidney Injury and Its Predictors Among HIV-Positive Patients in Africa: Systematic Review and Meta-Analysis



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Background: Acute kidney injury (AKI) is a rapid loss of the kidney's excretory function, resulting in an accumulation of end products of nitrogen metabolism. The prevalence and predictors of AKI among HIV-positive patients were inconsistent among studies reported in Africa. Therefore, this study aimed to generate robust and up-to-date evidence on the prevalence and identify predictors of AKI among HIV-positive patients in Africa.

Methods: We searched on PubMed, Embas, Ebsco, OVID, Cochrane Library, and other supplementary search engines (Google and Google Scholar). The quality of the study was assessed using the Newcastle-Ottawa Scale. The data were extracted using a Microsoft Excel spreadsheet and exported to Stata version 14 for analysis. A random effect meta-analysis model was used to estimate the pooled prevalence of AKI. Heterogeneity was evaluated using Cochrane Q statistics and I squared (I²). Furthermore, the graphic asymmetric test of the funnel plot and/or Egger's tests were computed to detect publication bias. To treat the publication bias, a trim and fill analysis was carried out. PROSPERO reference number: CRD42023446078.

Results: In total, twenty-four original articles comprising 7913 HIV-positive patients were included in the study. The pooled prevalence of AKI was found to be 23.35% (95% CI: 18.14-28.56%, I² = 97.7%, p-value <0.001). Low hemoglobin (Hgb <8 mg/dl) was found to be the determinant factor for AKI (AOR = 2.4; 95% CI: 1.69-3.4, I² = 0.0%, p-value = 0.40).

Conclusions: The pooled prevalence of AKI among HIV-positive patients was high. HIV-positive patients with low hemoglobin levels are at risk of developing AKI

Biography:

My name is Abere Woretaw Azagew. I was born in Ethiopia. I grew up with my lovely families. When I grew up, I joined the nearby primary and secondary schools. Then after, I joined to the University of Gondar, earned a BSc in nursing in 2010, and was worked as a clinical nurse. In 2013, I joined to the University of Gondar as academic instructor. Then, in 2016, I graduated my master's degree in nursing. I have ample clinical, academic research, and leadership experience. Now, I work as an assistant professor of medical nursing and PhD fellow.