**Prevalence of chronic kidney disease among HIV-infected adults on antiretroviral therapy in northern Namibia: a cross-sectional study**

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**ABSTRACT**

**Introduction:** There is an epidemic of chronic kidney disease (CKD) in Africa and human immunodeficiency virus (HIV) infection is among the major drivers. However, the burden of CKD in HIV-infected patients in Africa varies widely by country and study, ranging from 0.5–59.3%. Published data on the prevalence of CKD in the Namibian HIV-infected population are scarce. In this study, we aimed to estimate the prevalence of CKD and associated factors in HIV-infected adults on antiretroviral therapy in northern Namibia.

**Methods:** We conducted a cross-sectional study in the four regions of northern Namibia, using existing electronic records used in the management of HIV-infected patients. Variables captured included the two most recent serum creatinine measurements, date of birth, sex, date of initiating antiretroviral therapy, current antiretroviral treatment, and most recent HIV viral load results. We used standardised serum creatinine measurements to estimate the glomerular filtration rate (GFR) using the Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) equation. CKD was defined as estimated GFR (eGFR) < 60 mL/min/1.73 m2 on two occasions at least three months apart. Factors associated with CKD were assessed using logistic regression.

**Results:** We included 1 993 participants, of whom 1 362 (68%) were female and mean age was 44.5 ± 11.5 years. The proportion of participants who were virally suppressed was 97% (95% CI 96, 98%) and the median duration on antiretroviral therapy was 107 months (IQR 62–149). The prevalence of CKD was 1.4% (95% CI 1.0, 2.0%). CKD cases were 13 times more likely to be 45 years or older and 3.5 times more likely to be male than those with no CKD.

**Conclusions:** Our findings suggest a low prevalence of CKD among the HIV-infected population in northern Namibia. Patients older than 45 years may need additional monitoring for kidney function using eGFR.

**Keywords:** chronic kidney disease; HIV; eGFR; Namibia.

**INTRODUCTION**

Chronic kidney disease (CKD) is a condition characterized by abnormalities of kidney function or kidney structure, that have been present for at least 3 months, with implications for health [1]. …

An eGFR of less than 60 mL/min/1.73 m2 for at least 3 months is used as the threshold to diagnose CKD [1]. …

**METHODS**

We carried out a cross-sectional study ...

Stata version 16.1 was used for data analysis. …

**Ethics considerations**

The Health Research Ethics Committee (HREC) of the University of Stellenbosch approved the study ...

**RESULTS**

A total of 1 993 participants …

**Table 1.** Characteristics of participants.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Number | Sex N (%) | Age (years) (mean $\pm $ SD) | Duration on ART (months) (median) (IQR) | Viral load less than 1000 cps/mL, proportion (%) (95% CI) | TDF use, proportion (%) (95% CI) |
| Female  | Male  |
| Overall | 1993 | 1362 (68.3) | 631 (31.7) | 44.5 $\pm $ 11.5  | 107 (62–149) | 97.3 (96.5–98) | 94.1 (93–95.1) |

Abbreviations: ART, antiretroviral therapy; CI, confidence interval; cps/mL, copies per millilitre; IQR, interquartile range; N, number; SD, standard deviation; TDF, tenofovir disoproxil fumarate.

**DISCUSSION**

The prevalence of CKD in this study of HIV-infected adults …

**Strengths and limitations**

The strengths of our study are that we …

**CONCLUSIONS**

The burden of CKD among HIV-infected adults …

**Supplementary materials**

The characteristics of study participants and the excluded patients are available via the supplementary materials on the *African Journal of Nephrology* website.

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