

Pre-exposure prophylaxis and renal impairment in Aboriginal and Torres Strait Islander Australians

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Background: Aboriginal and Torres Strait Islander (hereafter respectfully referred to as Indigenous) peoples are recognised as priority populations for the prevention and management of HIV, including pre-exposure prophylaxis (PrEP). All PrEP regimens currently subsidized in Australia contain tenofovir disoproxil, a potential nephrotoxin. This may be of particular concern for Indigenous Australians who have higher prevalence of renal disease overall, and therefore may warrant increased monitoring or the recommendation of alternative PrEP regimens.

Aim: To compare the rates of new or worsening renal impairment in Indigenous and non-Indigenous Australians receiving PrEP in the Australian ACCESS network comprising sexual health and general practice clinics, and some hospitals.

Methods: A retrospective analysis of individuals commencing PrEP in 55 clinics across Australia between Jan 2010 and Dec 2020 was conducted. Patients were followed from commencement of PrEP for new renal impairment, defined as a glomerular filtration rate (eGFR) <60 mL/min/1.73m² and/or a reduction in eGFR of >25% from baseline established over a testing interval of three months. Statistical comparisons were by logrank or Chi-square test.

Results: 476 Indigenous and 9727 non-Indigenous Australians commenced PrEP at participating clinics and were followed for a median of 1.7 years (IQR: 1.2-2.0). The rate of new or worsening renal impairment was 3.8 events/1000 person-years (95%CI: 1.2-11.8) for Indigenous people as compared to 5.1 events/1000 person-years (95%CI: 4.1-6.2, p=0.643) for non-Indigenous Australians. A greater proportion of Indigenous Australians were aged 40-49 or >50 years than non-Indigenous Australians (p<0.001), but rates of pre-existing renal impairment were similar (p=0.187).

Conclusion: New onset or worsening renal impairment was rare in patients commencing PrEP in Australian clinics. Aboriginal and Torres Strait Islander Australians do not appear to be at higher risk than non-Indigenous persons and increased monitoring or the use of alternative PrEP regimens is likely not warranted.

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