

## STI INCIDENCE AND RISK FACTORS IN HIV-INFECTED ADULTS ON ANTIRETROVIRAL THERAPY (ART) IN THE PAART STUDY

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**Background:** Sexually transmissible infection (STI) incidence is increasing in Australia, particularly in men who have sex with men (MSM). Data are limited for Australian adults with treated HIV. We evaluated STI incidence and potential risk factors in the PAART cohort of HIV+ adults on ART.

**Methods:** STI were reported for 12-months pre-enrolment and recorded for 24-months after enrolment by study personnel. From 234 baseline variables, we selected 32 covariates encompassing ART (including initiation reasons; n=10), demographics (n=7), recreational drug use (n=5), socioeconomics (n=4), pathology (n=4), and treatment attitudes (n=2). We also assessed whether STIs were more common in participants with virological failure.

**Results:** PAART recruited 523 adults (mean 51 years, 95% male, median time HIV<50cp/mL 3.3 years, 78.5% MSM) at 17 clinics from 9/2013 through 11/2015. Over 3 years, 124 participants (23.7%) experienced an STI (chlamydia [13.6%]; gonorrhoea [10.3%]; syphilis [9.8%]). 12.0%, 4.0%, 4.8%, and 1.0% experienced 1, 2, 3 or 4 STIs, respectively. STI incidence was stable over time.

Twelve variables significantly associated (Fisher's exact test) with developing  $\geq 1$  STI: younger age; no prior AIDS; employed; started ART to prevent HIV transmission to partners/community; high viral load pre-ART; use of amyl nitrate/injected stimulants/non-injected stimulants/GHB; agreeing that U=U; and having more condomless sex when undetectable.

Following multivariable binary logistic regression, three variables independently associated with STI acquisition: age <51 (adjusted odds ratio [AOR] 1.9, 95% confidence interval [95%CI] 1.2-3.1,  $p=0.010$ ); amyl nitrate use (AOR 3.6, 95%CI 2.0-6.7,  $p<0.0001$ ); and more condomless sex when undetectable (AOR 2.3, 95%CI 1.3-4.0,  $p=0.005$ ).

STI incidence was similar between those with/without virological failure (22.5% and 23.8%, respectively; OR=0.95,  $p=1.00$ ).

**Conclusions:** STIs were relatively common in this population, with stable incidence. Associations were strongest for younger age, amyl nitrate use, and less condom use. Those experiencing virological failure did not have a lower STI incidence.

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