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Factors associated with unsuppressed viral loads among HIV-positive sexually transmitted infected patients attending STI services in South Africa, 2019

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ABSTRACT

Background: South Africa has a high burden of HIV and sexually transmitted infections (STIs). In the absence of viral suppression, STIs may facilitate the onward transmission of HIV to uninfected partners. We determined factors associated with unsuppressed viral loads (VL) among HIV-positive patients attending STI services in South Africa. **Methods:** We conducted a cross-sectional analysis of data on HIV- positive patients attending STI services enrolled at two STI sentinel sites in Western Cape and Gauteng provinces between January–December 2019 in South Africa. Descriptive statistics were performed to describe the patients. A Poisson regression model with robust error variance was used to identify factors associated with having an unsuppressed VL (>50 copies/ml), considering a p-value cut-off of 0.25 for inclusion in the multivariable model. In multivariable analysis, a 95% CI with $P< 0.05$ was considered statistically significant. **Results:** Among the 93 HIV- positive patients attending STI services with VL data, the median age was 32 years (IQR 27–37 years). Overall, 32 (34.41%) patients were on ART and 61 (65.59%) were not on ART; 90.63% of patients on ART were aged ≥25 years and 61 (65.20%) were male. The median HIV VL was 8011 RNA copies/ml (IQR= 78–99171). More than half (56.25%) of patients on ART had an unsuppressed VL and 86.89 % of those not on ART had an unsuppressed VL. After adjusting for age, gender, STI syndrome and ART use, factors associated with having an unsuppressed VL included; age <25 years (adjusted prevalence rate ratio [aPRR]= 1.25, 95% Confidence Interval [95% CI] = 0.99–1.60), being female (aPRR1.12, 95% CI=0.64–1.97). ART use was associated with a 33% lower prevalence of having an unsuppressed VL (aPRR= 0.67, 95% CI=0.49–0.92). Among those on ART, after adjusting for sex partner number, those aged <25 years had a higher likelihood of an unsuppressed VL (aPRR= 1.94: 95 % CI 1.27–2.97) compared to those ≥ 25 years. **Conclusion:** The proportion of HIV-positive patients attending STI services and reporting ART use was low and had a high prevalence of unsuppressed VLs regardless of ART status.

VL suppression is lower than the global target of 95% of HIV-positive persons on ART with viral load suppression. Intensified and targeted ART interventions to support young, HIV-positive females seeking STI services could improve viral suppression outcomes