Undetectable = Untransmissible: Key Populations with HIV Lag in Sustaining Undetectable Viral Load

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BACKGROUND

Maintaining undetectable viral load (UVL) among people with HIV (PWH) over the course of life-long anti-retroviral treatment (ART) is key to continuous health, transmission prevention, and safer sex with partners.
We compared durable UVL levels among key population (KP) groups − female sex workers (FSW), men having sex with men (MSM), and people who inject drugs (PWID) – and the general population (GP) to identify variations in sustaining viral suppression and associated factors.

METHODS

A cross-sectional retrospective analysis of PWH enrolled in care between May 2018 to October 2021 using data retrieved from electronic medical records in 57 health facilities across four states (Gombe, Kaduna, Kogi, and Lagos) in Nigeria.
Durable UVL was defined as viral load of <50 copies per ml from two tests conducted at least 6 months apart. We compared distributions between KP groups and GP using chi-squared tests. Multivariate logistic regression with robust variance estimation was used to obtain adjusted odds ratio (AOR) with 95% confidence interval for durable UVL in the sub-populations.

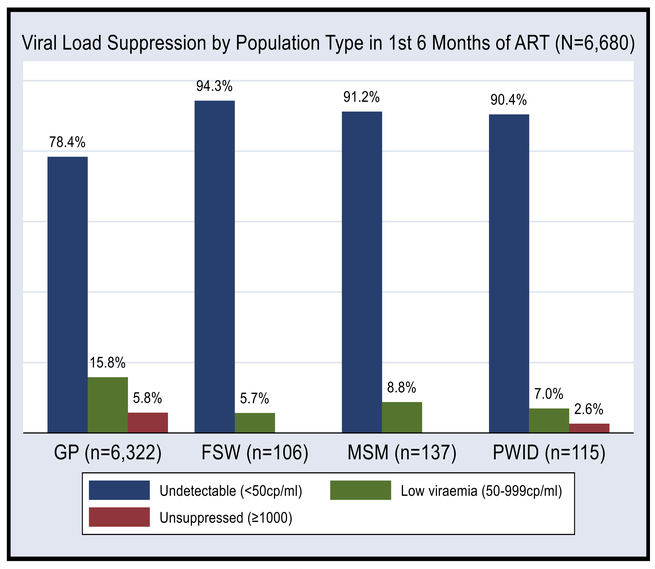


Figure 1

A greater proportion (92%) **among KP,** compared to GP (78%), with HIV **achieved undetectable viral load suppression** within six months of treatment, but **only 50% of these sustained** it, compared to **84%** of **GP**

RESULTS

5,286 (79%) of 6,680 clients had achieved UVL within 6 months of ART, higher in KP (92% [329/358] than GP (78% [4,957/6322]), [$\chi 2 = 38.9$, $p<0.001$]. (Fig1). Among those with UVL, the median age was 33 years, 65% were females, 59% had at least secondary education, 77% were unemployed, and 87% received care in their State of residence. 4,345 (82%) had durable UVL, higher in GP (84%) than in KP (FSW − 38%; MSM − 50%; and PWID − 61%.) [$\chi 2 = 268.7$, $p<0.001$]. (Fig 2)
Multivariate analysis showed lower odds of durable UVL in KP groups compared to GP (FSW: AOR = 0.13 [0.09 − 0.18]; MSM: AOR = 0.22 [0.17 − 0.29]; PWID: AOR = 0.32 [0.23 −0.44]). (Fig 3). The odds of durable UVL were lower for those employed than unemployed (AOR = 0.67 [0.48 – 0.95]) and higher among clients aged 40 − 44 years than those 15 − 19 years old (AOR = 1.70[1.03 − 2.80]).
Receiving care outside the State of residence increased the log odds of durable UVL for KP groups: log odds difference – MSM: 2.3, p<0.001, FSW: 1.9, p<0.001; PWID: 1.6, p<0.001). (Fig 4).

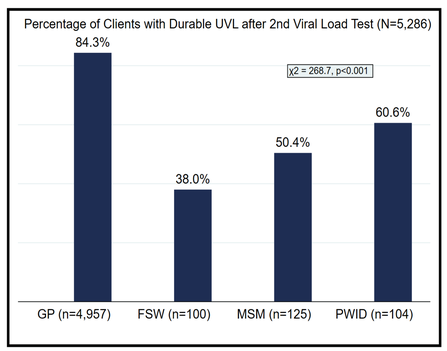


Figure 2

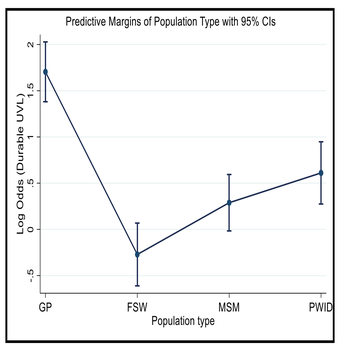


Figure 3

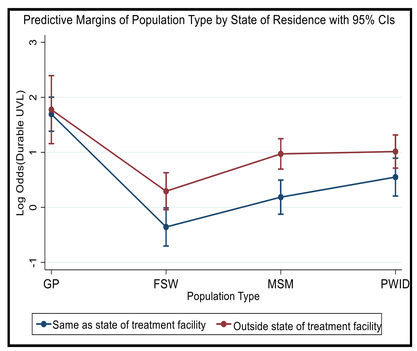


Figure 4

CONCLUSIONS

The findings from these four states suggest that while KP groups may be more likely than GP to achieve early UVL, they are less likely to sustain it. In both populations, younger clients and those who are employed may be at risk of not sustaining UVL. Receiving treatment in facilities outside their state of residence appears to be a critical factor for KP members to sustain UVL.
Providing insights through further studies for these differences will help develop appropriate interventions for sustained undetectable viral load suppression amongst clients with HIV on ART, irrespective of subpopulation.

ADDITIONAL KEY INFORMATION

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