HIV Viral Suppression Among Children and Adolescents 2 Years After Transition to Dolutegravir

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BACKGROUND

- Treatment failure is common for children and adolescents with HIV
- In recent years, children and adolescents previously taking antiretroviral therapy (ART) containing a non-nucleoside reverse transcriptase inhibitor (NNRTI; efavirenz or nevirapine) have changed to ART containing dolutegravir
- **Evidence gap: there is a lack of real-world, large-scale, long-term data on virological outcomes after transition to dolutegravir in children and adolescents**

METHODS

Data derive from two cohorts in Lesotho, southern Africa:

- Baylor College of Medicine Children's Foundation Lesotho (BCMCFL) clinical cohort
- Viral Load Cohort North-East Lesotho (VICONEL)

Eligibility for this analysis:

- Age <18 years
- Changed from NNRTI- to dolutegravir-based ART ≥18 months before data closure

We report:

- Viral suppression <12 months before, 12 (window: 6-17) months after, and 24 (18-29) months after changing to dolutegravir-based ART
- Factors associated with 24-month viremia ≥50 copies/mL, assessed through logistic regression

RESULTS

- We included 2,126 participants (**Table**)
- No changes away from dolutegravir were recorded
- Three participants died while taking dolutegravir-based ART, thereof two of AIDS-related causes; both had a history of poor adherence and viremia before and after changing to dolutegravir
- The vast majority of those with pre-change viremia achieved viral suppression with dolutegravir (**Figure 1**)
- Pre-change viremia was associated with 24-month viremia (**Figure 2**)

Over 95% of children & adolescents with HIV had viral suppression <1000 copies/mL 2 years after changing from NNRTI- to dolutegravir-based ART

Table: Participant characteristics. IQR: interquartile range.

	Total (N=2126)
Female, n (%)	1100 (51.7)
Age in years at change to dolutegravir, median (IQR)	14.0 (11.5-15.8)
Years on ART at change to dolutegravir, median (IQR)	7.6 (4.4-10.6)
Last core agent before transition to dolutegravir, n (%)	
Efavirenz	1438 (67.6)
Nevirapine	688 (32.4)

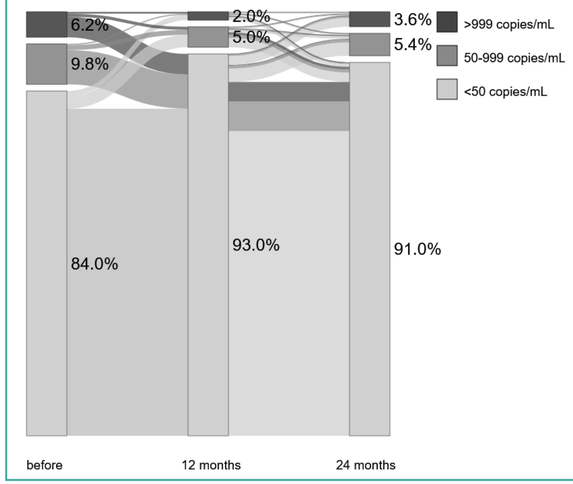

Figure 1: Viral load dynamics among participants with an available viral load at all three time points (n=1747) At 24 months, >95% had viral suppression to <1000 copies/mL and >90% to <50 copies/mL. Overall, among those with a pre-change viral load that was <50 copies/mL, 50-999 copies/mL, ≥1000 copies/mL, or missing, 94.2%, 84.4%, 81.9%, and 82.4% had a 24-month viral load <50 copies/mL.

Node shades indicate viral load categories at the respective time point; flow shades indicate the pre-change viral load category.

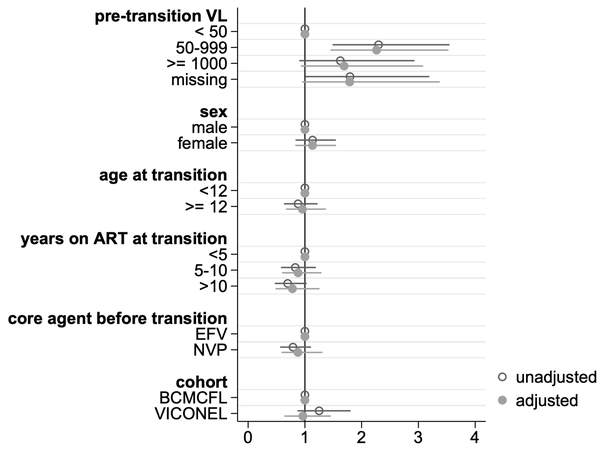

Figure 2: Correlates of 24-month viremia ≥50 copies/mL (N=1904). Pre-change viremia 50-999 and ≥1000 copies/mL **correlated with 24-month viremia** ≥50 (shown) and ≥1000 copies/mL (not shown), respectively. Odds ratios with 95% confidence intervals shown. EFV: efavirenz; NVP: nevirapine; VL: viral load.

CONCLUSIONS

- **Clinical implications: long-term outcomes for children and adolescents changing from NNRTI- to DTG-based ART are encouraging**
- Pre-change viremia was associated with 24-month viremia, yet the majority with pre-change viremia achieved viral suppression at 24 months

FURTHER INFORMATION

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