Contribution of community–based interventions on viral load suppression among HIV positive orphans and vulnerable children receiving antiretroviral therapy in Tanzania

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Background

- Due to high rate of viral replication, CD4 destruction, and high viral load facilitated by immune system immaturity, children living with HIV (CLHIV) are exceptionally more likely to suffer morbidity and mortality than their adult counterparts (Brassell & Potterton, 2019).
- Accordingly, the Tanzania HIV Impact Survey (THIS) report revealed that only 18.4% of CLHIV in Tanzania had achieved viral suppression in 2017 (THIS, 2018).
- Timely diagnosis followed by immediate initiation and retention of CLHIV on treatment results in viral suppression which is necessary for healthy growth into adolescence and adulthood.
- This study assessed how community-based interventions can contribute to viral suppression among orphans and vulnerable children living with HIV (OVCLHIV).

USAID Kizazi Kipya support to CLHIV along the continuum of Care

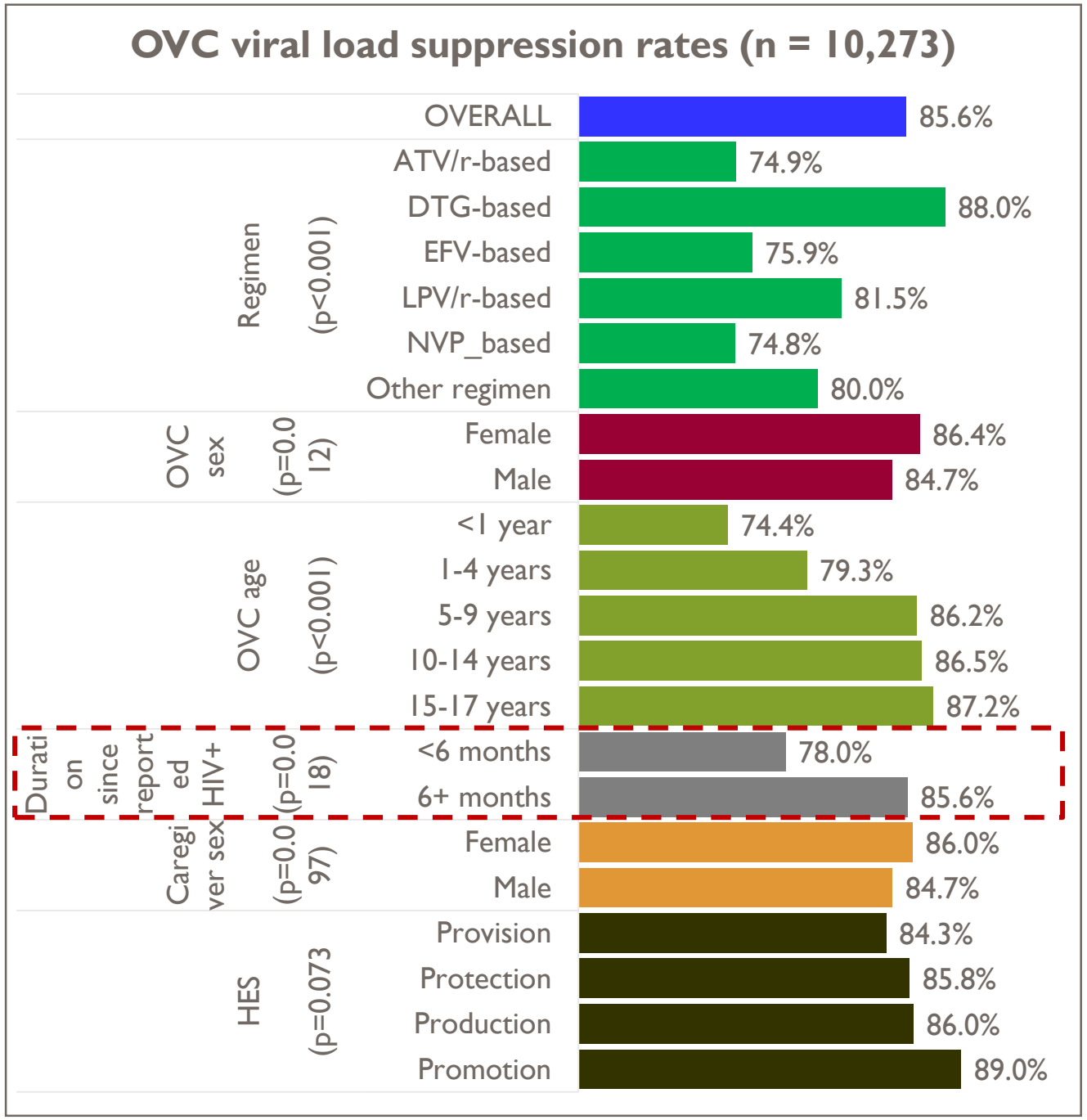
- Address barriers to ART initiation for CLHIV not on ART (e.g., use of escorted referrals and provision of ART counseling by trained nurses/clinicians).
- Work with high pediatric volume CTCs to trace CLHIV who miss appointments, enroll them in Kizazi Kipya, and link them back to CTCs.
- Provide escorted referrals to CLHIV with high viral loads to attend enhance adherence sessions.
- Enroll CLHIV from high volume pediatric CTCs focusing on CLHIV with high viral loads, missed appointments, and treatment interruption.
- Support long-term ART adherence by providing CLHIV with a tailored package
- LCWs/CCWs trained in ART adherence provide support and address barriers during case management visits to HIV positive OVC and caregivers.
- Refer HIV positive OVC and caregivers to PLHIV support groups.
- Use Kizazi Kipya sticker model to support long-term ART adherence by supporting CTC client tracking
- Use two mechanisms (CTCs 3 macro database and supportive supervision tool) to track viral load levels and support LCWs/CCWs to provide appropriate support to CLHIV to achieve viral load suppression.

Methods

- Data stem from a community-based, USAID–funded Kizazi Kipya project (2016 – 2021).
- The project aimed at increasing the uptake of HIV/AIDS services, and other health and social services by OVC and their caregivers.
- OVCLHIV aged 0–17 years were tracked for their clinical records from care and treatment centers (CTC) from 25 regions in Tanzania.
- The OVC had been receiving home-based care and treatment support from the project volunteers, including ensuring that they are attending their CTC appointments as well as adhering to ART.
- Viral load test data aged 1 year or less by 31st March 2021 were analyzed.
- Viral suppression, defined as viral load <1,000 copies/mil, was the outcome.
- Duration in the USAID Kizazi Kipya project was the main independent variable. Other characteristics including demographics were included as independent variables.
- Data analysis involved Chi-square tests for bivariate analysis, as well as multivariable analysis using logistic regression.

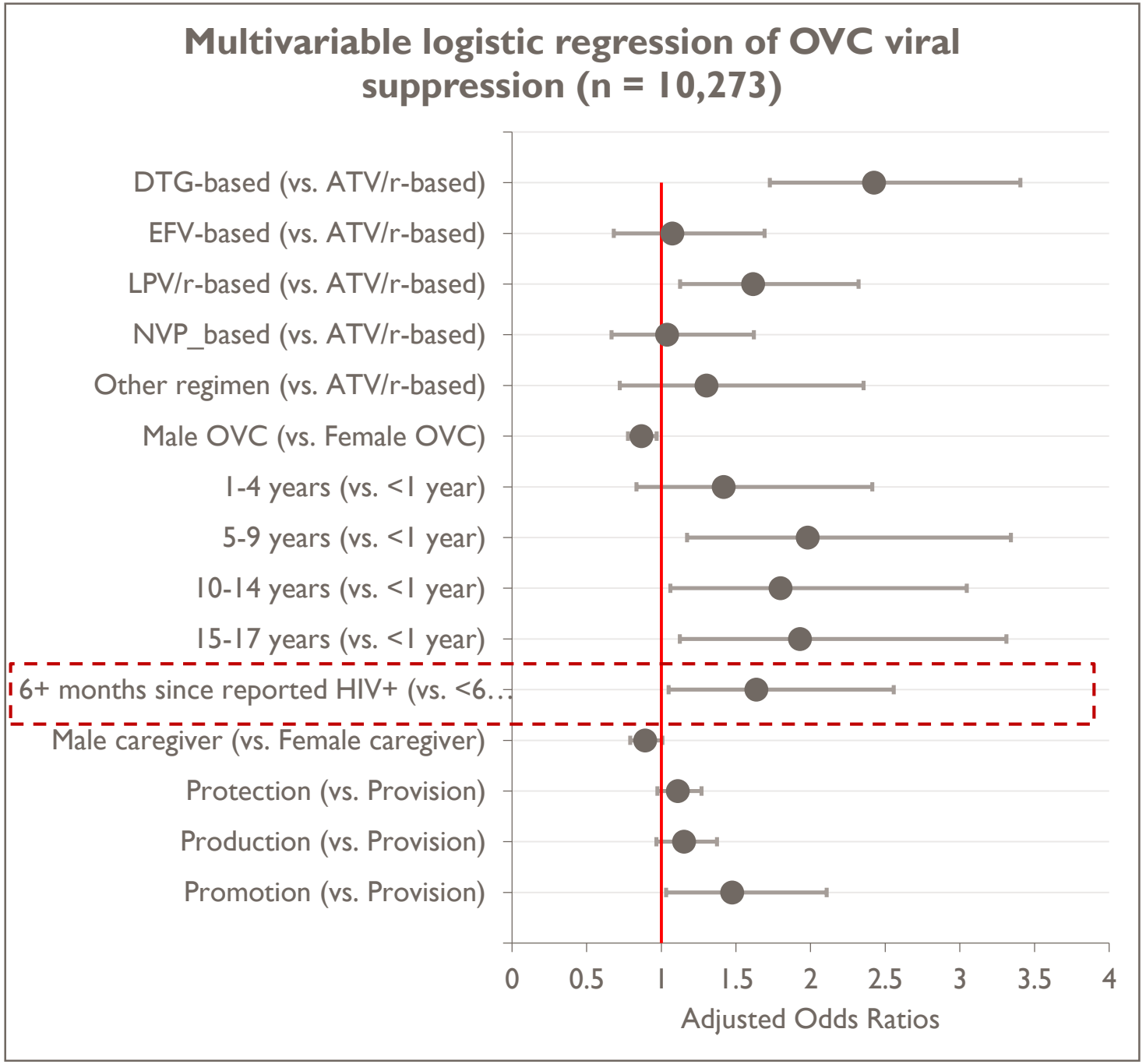
Results

- Sample: **10,273** OVC LHIV
- **51.7%** were female, and the rest were males.
- **98.9%** had received service from the project for 6 months or more since reported HIV-positive.
- Overall, **85.6%** were virally suppressed.
- **Viral suppression rate was significantly higher for OVC who had been in the project for 6+ months compared to <6 months (85.6% vs. 78.0%) (p = 0.018).**



Results

- In the multivariable analysis, viral suppression was more likely…
  - **if the OVC had been in the project for 6+ months than <6 months (OR=1.64, 95% CI 1.05–2.56).**
  - if the regimen was ATV/r-based (OR=2.43, 95% CI 1.73–3.40) and LPV/r-based (OR=1.63, 95% CI 1.12–2.32) than ATV/r-based.
  - If OVC was from households with better economic status than their destitute counterparts (OR=1.47, 95% CI 1.03–2.11).
  - All OVC aged 5+ years were more likely to achieve viral suppression than <1 year-olds.
  - Male OVC were less likely than their female counterparts to achieve viral suppression (OR=0.87, 95% CI 0.78–0.97).



Conclusions

- Amidst ART regimens and other characteristics, there was a **64% increased likelihood to achieve viral suppression among OVCLHIV receiving ART, resulting from being exposed to the USAID Kizazi Kipya project for 6+ months**.
- Through home visits, community-based programs are likely to influence adherence to HIV treatment and consequently viral suppression.
- Community-based programs are well positioned for early detection and response to social and economic barriers that affect HIV treatment among vulnerable populations.

- **References**

Brassell, S. E., & Potterton, J. (2019). Prevalence of disability in HIV-infected children attending an urban paediatric HIV clinic in Johannesburg, South Africa. *Vulnerable Children and Youth Studies*, *14*(2), 95–115. https://doi.org/10.1080/17450128.2019.1566682

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