Antiretroviral Therapy Outcomes at 6 Months by HIV Recent Infection Classification, Rwanda 2021-2022

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CDC's GLOBAL HEALTH CENTER

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BACKGROUND

- As countries approach epidemic control and 95-95-95 goals, the number of new HIV diagnoses should decrease.
- Countries have made progress in recent infection surveillance to help monitor trends in recent infections among those newly diagnosed with HIV.
- Although there may be many factors associated with antiretroviral therapy (ART) uptake and outcomes, there is limited evidence to date on whether persons classified as recently infected are more or less likely than those classified as long-term infected to initiate timely ART and subsequently have viral suppression.

METHODS

- We analyzed longitudinal data on newly diagnosed adults (≥15 years old) enrolled in a cohort study conducted across 60 facilities in Rwanda from August 2021 to October 2022.
- Per study procedures, all persons received both rapid testing for recent infection (RTRI) and viral load (VL) testing at baseline.
- Using a recent infection testing algorithm (RITA), persons were classified as RITA-recent (RTRI-recent and baseline VL≥1000 copies/mL) or RITA- long-term (RTRI-long-term and baseline VL ≥1000); persons with baseline VL<1000 were presumed previously diagnosed and on ART and excluded from analysis.
- Demographic and clinical data were abstracted from Rwanda's case-based surveillance system at baseline, and monthly through 6-months follow-up.
- We limited the analysis to persons who initiated ART and had a follow-up VL result. If a VL result at 6 months was not available, we used the first VL result post-ART initiation.
- As our primary outcome, we calculated the proportion of persons with viral load suppression (VLS) (<1000 copies/mL) 6 months after ART initiation (Figure 3).
- We used Poisson regression with a robust variance estimator to estimate Risk Ratios (RRs) for VLS during follow-up comparing persons classified as RITA-recent to those classified as RITA-long-term. (Figure 4).

CONCLUSIONS

- In this cohort of 1,238 persons newly diagnosed with HIV, the vast majority initiated same-day ART (Figure 1) and had VLS during follow-up. (Figure 3)
- The proportion female and the proportion age <30 years was higher among persons classified as RITA-recent compared to persons classified as RITA-long-term. (Figure 2).
- VLS during follow-up did not differ significantly between persons classified as RITA-recent and persons classified RITA-long-term; nor by any other baseline characteristics. (Figure 4).
- Program efforts to ensure timely and effective ART are needed for all persons diagnosed with HIV (regardless of RITA-classification).

Viral load suppression 6-months post-ART was the same (94%) for persons classified as recently infected and persons classified as long-term infected.

RESULTS

Figure 1. Flow Diagram of Persons included in Analysis of Follow-up VL Result

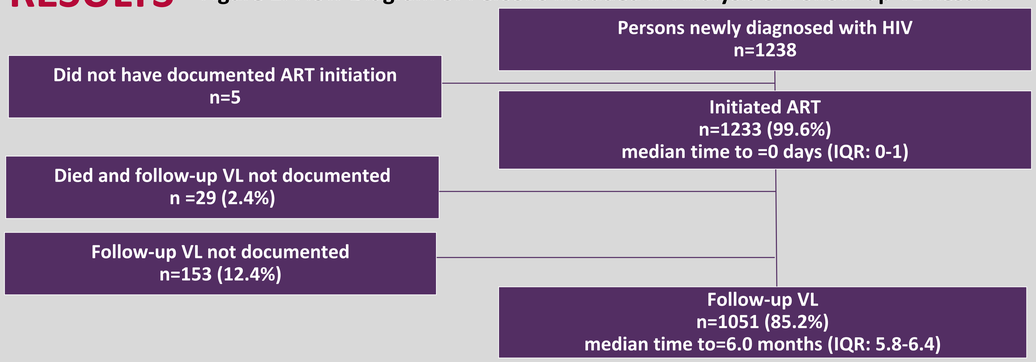


Figure 2. Baseline characteristics among persons classified RITA-recent v. -long-term



*indicates p-value <0.05 significant for Chi-square test for difference

Figure 3. Proportion of Persons with Viral Load Suppression During Follow-up by RITA-classification

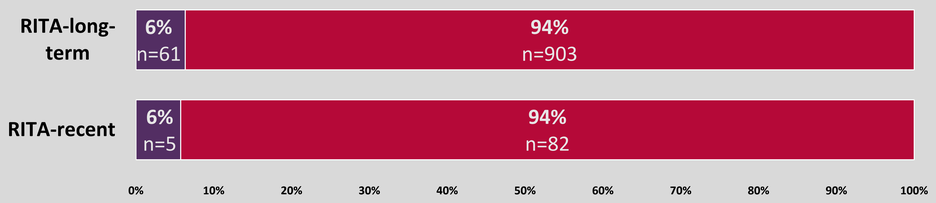
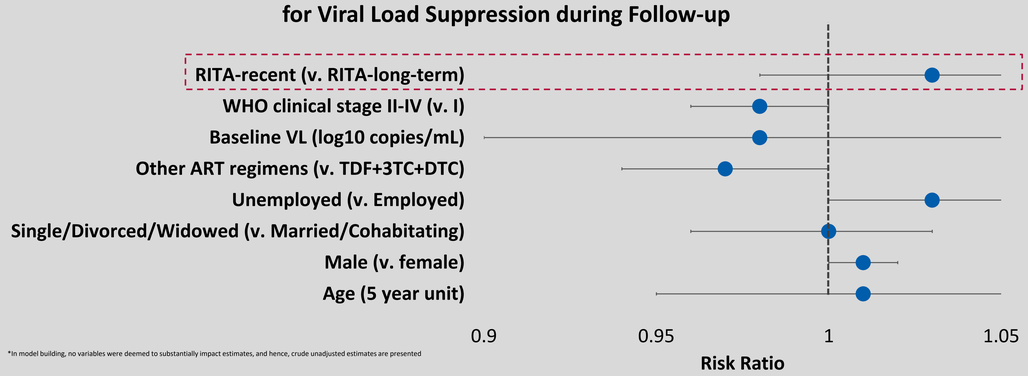


Figure 4. Forest Plot of Risk Ratio (RR) and 95% Confidence Interval Estimates* for Viral Load Suppression during Follow-up



*In model building, no variables were deemed to substantially impact estimates, and hence, crude unadjusted estimates are presented

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