944

Partner Acquisition Rate by HIV Testing and Treatment Engagement: A Multicountry Analysis

Kathryn A Risher[1], Chelsea Brockman[1], Augustine Choko[2,3], Stéphane Helleringer[4], Patrick Janulis[5], Clara Calvert[6,7], Emma Slaymaker[7], Michelle Birkett[5]

[1]Penn State College of Medicine, Hershey, PA, USA, [2]Malawi Liverpool Wellcome Programme, Blantyre, Malawi, [3]Liverpool School of Tropical Medicine, Liverpool, UK, [4]NYU-Abu Dhabi, Abu Dhabi, UAE, [5]Northwestern Feinberg School of Medicine, Chicago, IL, USA, [6]University of Edinburgh, Edinburgh, UK, [7]London School of Hygiene & Tropical Medicine, London, UK

BACKGROUND

- Sexual partner acquisition rates are correlated with the speed with which HIV can transmit across a population through new partners
- Understanding systematic differences in partner acquisition rates between those engaged in HIV testing and treatment can inform populations at greatest risk of transmission.
- We assessed partner acquisition rates by HIV testing and treatment and HIV status in population-based surveys conducted in 6 countries in Africa

METHODS

- We analyzed data from 6 Population-based HIV Impact Assessment surveys (PHIAs), nationally representative household-based surveys among those aged 15-64
- First round PHIAs conducted in Eswatini (2016-17), Lesotho (2016-17), Malawi (2015-16), Uganda (2016-17), Zambia (2016), and Zimbabwe (2015-16) included in this study asked about date of first sex for each of three most recent partners, required for this analysis
- Participants with self-reported HIV testing history and biological data on HIV status, presence of ART, and viral load suppression (VS) were analyzed
- Person-time at risk of partner acquisition was characterized by time in the 12 months prior to interview that a respondent was “at risk” of acquiring up 3 partners
- Poisson regression with log person-time offset, stratified by HIV status and gender, was used to test differences between partner acquisition rates by HIV testing and treatment status after adjusting for one-year age category, education, and country
- Survey design was accounted for in analysis
- Results are presented for each country individually and combined, for combined analysis each survey was given equal weight

We find that sexual partner acquisition rates vary by levels of engagement in HIV testing and treatment, with past year testing associated with partner acquisition among HIV-negative participants, and care engagement with lower partner acquisition among women LHIV

RESULTS

- Among 96,905 participants, sexual partner acquisition rates were lower for women and HIV-negative participants, after adjustment, with 23.7 (95% CI=22.8-24.6) new partners per 100 person-years in HIV-negative men and 27.6 (95% CI=25.5-29.8) in men LHIV, compared to 11.2 (95% CI=10.7-11.7) in HIV-negative women and 16.2 (95% CI=15.1-17.4) in women LHIV
- HIV-negative participants (Fig 1) had increased rates of partner acquisition if they had tested in the past year in both women (ARR=1.4, 95% CI= 1.3-1.5) and men (ARR=1.1, 95% CI=1.1-1.2)
- Among PLHIV (Fig 2), women aware of their status but not on ART had lower rates than those unaware of status (ARR=0.79, 95% CI=0.67-0.94)

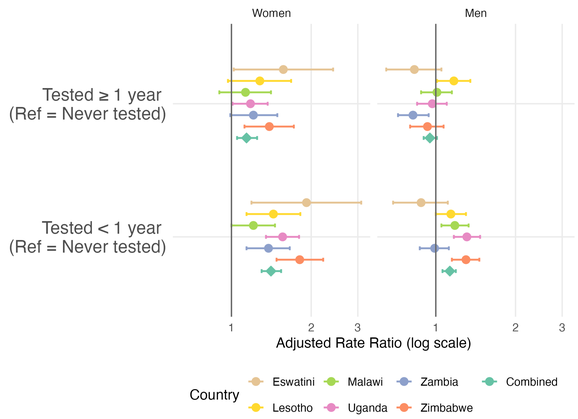


Figure 1: Adjusted rate ratios for sexual partner acquisition by HIV testing status among HIV-negative participants in 6 PHIAs in Africa, adjusting for age, education, and country. Ref = Reference category

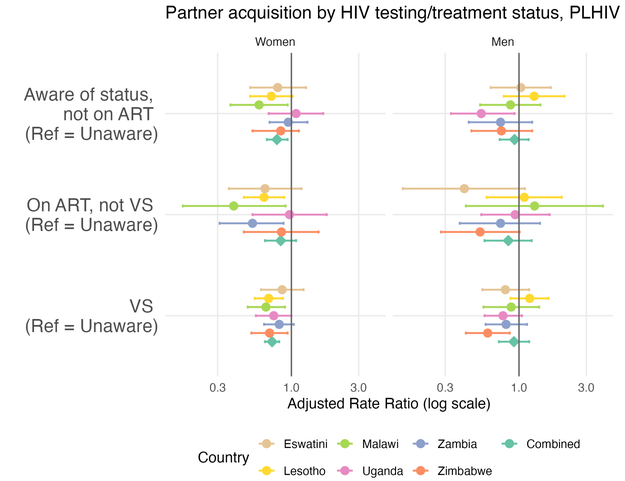


Figure 2: Adjusted rate ratios for sexual partner acquisition by HIV testing/treatment status among people living with HIV (PLHIV) in Africa, adjusting for age, education, and country. ART = antiretroviral therapy, VS = virally suppressed, Ref = Reference category

- Virally suppressed women were less likely to acquire a new partner than those unaware of their status (ARR=0.73, 95% CI=0.65-0.82)
- Among men LHIV, there was country-level variability

CONCLUSIONS

- Among HIV-negative individuals, partnership acquisition is associated with past year testing, suggesting that individuals may be ascertaining their HIV-status at the start of new relationships
- Among PLHIV, we see that women aware of status or virally suppressed have reduced rates of partnership acquisition, potentially representing 1) recent HIV acquisition from a new partner among those unaware of their status or 2) stigma of a known HIV-positive diagnosis in developing new partnerships

ADDITIONAL KEY INFORMATION

Contact information: krisher@psu.edu

Funding: NIH K01MH135767

Lead. Serve. Inspire.
PUBLIC HEALTH SCIENCES

NORTHWESTERN UNIVERSITY FEINBERG SCHOOL OF MEDICINE
Malawi Liverpool Wellcome Programme
LSTM LIVERPOOL SCHOOL OF TROPICAL MEDICINE
THE UNIVERSITY OF EDINBURGH
جامعة نيويورك ابوظبي NYU ABU DHABI
LONDON SCHOOL of HYGIENE &TROPICAL MEDICINE
PennState College of Medicine