Differential Uptake of HIV Care and Treatment by Sexual Risk Behaviors

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Background

- The success of treatment as prevention is dependent upon uptake of HIV care and antiretroviral therapy (ART).
- The sexual behaviors of persons not engaged in HIV care are poorly understood and there is a need to explicitly capture the risk behaviors among persons not on ART who have unsuppressed viral loads and are at increased risk of onward transmission.
- We use survey data to explore the association of risky sexual behaviors with uptake of HIV care and ART in Rakai, Uganda.

Methods

Study Setting: The study population included HIV-positive residents enrolled in the Rakai Community Cohort Study (RCCS) between September, 2013 and December, 2015. Data were obtained from 41 RCCS communities; representative of rural Uganda (HIV prevalence is ~14% in trading communities, 12% in agrarian communities and ~42% in high risk fishing communities).

Data sources and definition of variables:

Clinic-based records and self-reported RCCS surveys were used to measure care and ART. HIV risk factors were based on sexual behaviors reported for the 12 months prior to interview, including number of sex partners, non-marital partners, sex with partners from outside the community of residence, alcohol use before sex

Statistical Analysis:

We used modified Poisson regression with generalized estimating equations to estimate prevalence risk ratios (PRRs) and 95% confidence intervals (95%CIs) of enrollment into HIV care and ART use, comparing those who did or did not report each HIV risk behavior, for the whole population and stratified by sex.

Results

Of 3,666 HIV-positive persons interviewed, 74% were enrolled in HIV care and 63% had initiated ART. Demographic characteristics are shown in Table 1.

Sexual Risk behavior: 45% of sexually active men and 79% of women reported only one sexual partner in the past year (p<0.001). 56% of sexually active men reported a non-marital partner compared with 48% of women (p<0.001); and 59% of sexually active men and 36% of women reported alcohol use before sex (p<0.001).

Table 1: Demographic characteristics.

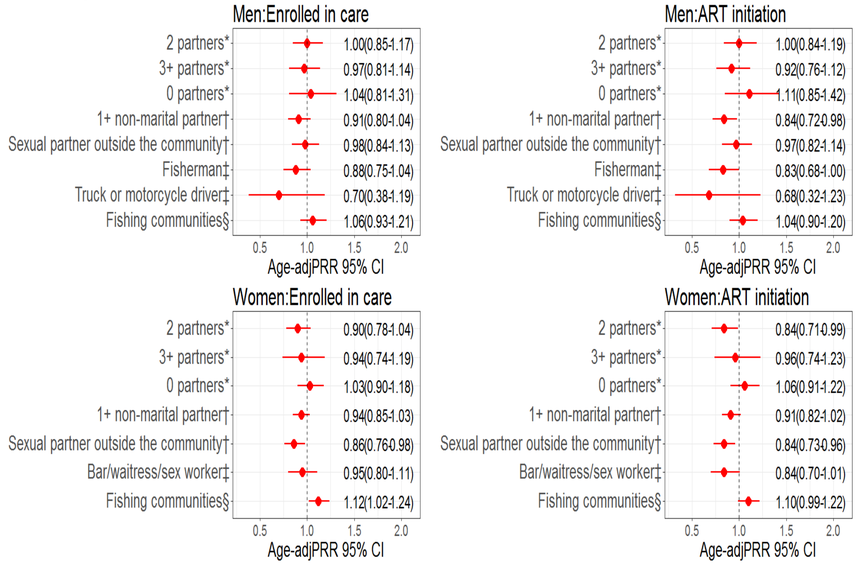
Characteristic	N	(%)
Female	2308	(63)
Age, median (IQR), years	33	(27-38)
Occupation		
Not high risk (agriculture, shop attendants , laborers, professional or clerical workers, students, and 'others')	2646	(72.2)
Bar/waitress/sex worker	388	(10.6)
Fisherman	580	(15.8)
Trade/truck or motorcycle driver	52	(1.4)
Community Type		
General population: Agrarian & Trading communities	1917	(52.3)
Fishing communities	1749	(47.7)

Enrollment into HIV care: was lower among persons with non-marital sexual partners (adjPRR 0.92, 95% CI 0.85–1.00) compared to those without such partners, and among fishermen compared to lower risk occupations (adjPRR 0.84, 95% CI 0.72–0.99).

ART initiation: was also lower in persons with non-marital sexual partners (adjPRR 0.88, 95% CI 0.81–0.96), persons with sexual partners outside the community (adjPRR 0.89, 95% CI 0.80–0.99), and among fishermen (adjPRR 0.78, 95% CI 0.64–0.94).

Results cont'd

Figure 1: Prevalence Risk Ratios (PRR) for Enrollment into care and ART initiation by gender



*number of sexual partners vs. one in the last 12 months; †among sexually active: Yes/No; ‡occupation/non-high risk occupation; §fishing communities/general population.

Limitations

Most data were self-reported and may be subject to biases.

Conclusions

Persons with high risk profiles were less likely to enroll in care or initiate ART are likely to sustain ongoing transmission. This may reduce the impact of treatment on HIV incidence.

Acknowledgements: We thank the participants and staff of the Rakai Community Cohort Study for their contributions and efforts.

Supported by the National Institute of Allergy and Infectious Diseases (RO1AI114438, RO1AI110324, UO1AI10031, Division of Intramural Research, NIAID), the National Institute of Mental Health (RO1MH107275), the National Institute of Child Health and Human Development (RO1HD070769), the Bill & Melinda Gates Foundation (22006.03), World Bank (7166975), and Centers for Disease control and Protection cooperative agreement of PEPFAR non-research clinical records (USGPS000971).