High PrEP uptake and low HIV viremia when PrEP is integrated into Ugandan ART clinics

00927

Renee Heffron[1], Timothy Muwonge[2], Dorothy Thomas[1], Florence Nambi[2], Lylianne Nakabugo[2], Joseph Kibukka[2], Erika Feutz[1], Allison Meisner[1], Kathy Thomas[1], Norma Ware[3], Jane Simoni[1], Ingrid Katz[4], Herbert Kadama[5], Andrew Mujugira[2], for the Partners PrEP Program Team

[1]University of Washington, Seattle, USA; [2]Makerere University, Kampala, Uganda; [3]Harvard University, Boston, USA; [4]Brigham & Women's Hospital, Boston, USA; [5]Uganda Ministry of Health, Kampala, Uganda

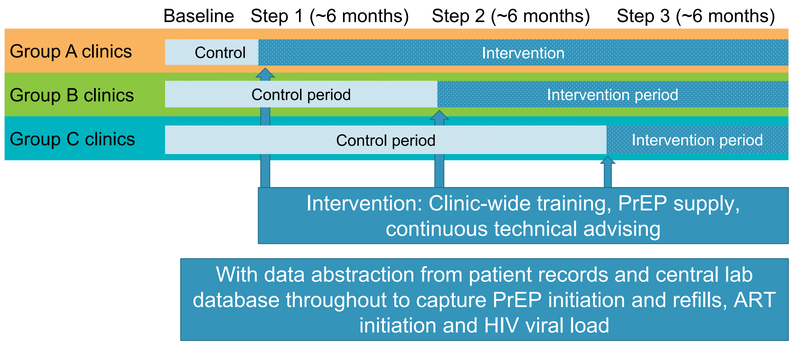
Contact: rheffron@uw.edu

BACKGROUND

- Integrated delivery of PrEP and ART was highly effective at preventing HIV transmission to HIV-negative members of HIV-serodifferent couples in demonstration projects
- Further evaluation is needed to:
  - Evaluate PrEP initiation and persistence when integrated delivery is located within public ART clinics
  - Determine whether presence of an integrated PrEP and ART program yields increases in clinic-based levels of ART initiation and HIV viral suppression in partners living with HIV

DESIGN

Stepped-wedge cluster randomize trial design



- Location: 12 public ART clinics in Kampala and Wakiso districts in Uganda
- Data collection: abstraction from patient records and the national laboratory database, beginning at the study launch; missing data on viral load were imputed based on the reason for missingness
- Control vs. Intervention periods: Dates of the integrated PrEP and ART program launch were determined during a public randomization event; periods prior to program launch contributed to collective time in the control period and periods subsequent to the launch contributed to the intervention period
- PrEP program: facility staff were trained on PrEP and HIV counseling for serodifferent couples; program launch occurred subsequent to training and delivery of PrEP medication to each clinic
- Statistical methods: Modified Poisson regression was used to calculate the relative risk of viral suppression during intervention versus control periods with adjustment for confounding by time and small numbers of clusters

RESULTS

1,381 HIV sero-different couples enrolled (730 control, 651 intervention)

61.5% of partners living with HIV were women

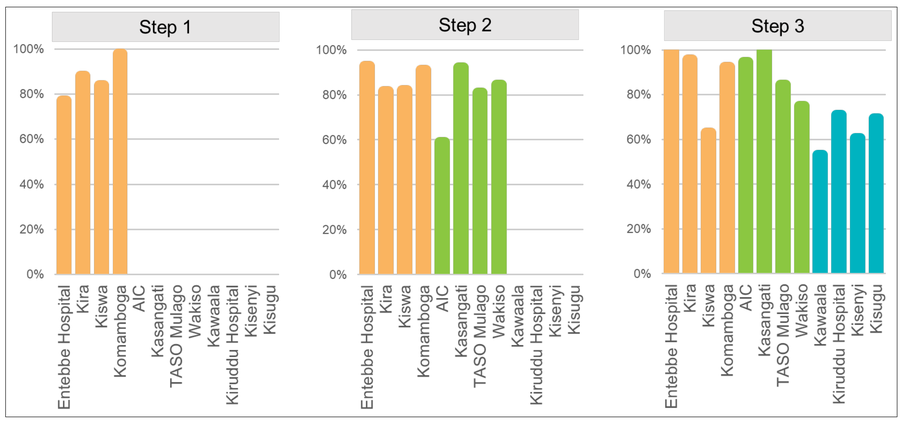
77.6% couples married

28 (24-34)

Age median and interquartile range

Offering PrEP within ART clinics reached a high proportion of people in HIV serodifferent relationships with no statistical difference in high levels of HIV viral suppression among partners living with HIV.

Frequency of PrEP initiation by step and facility



Statistical comparison and estimation of the intervention effect on viral suppression in partners living with HIV

	Viral suppression during control periods	Viral suppression during intervention periods	RR (95% CI)	p-value
Primary Analysis[1]	598/730 (81.9%)	499/651 (76.7%)	0.94 (0.82, 1.07)	0.28
Assuming missing are unsuppressed	456/730 (62.5%)	370/651 (56.8%)	0.93 (0.78, 1.09)	0.30
Assuming missing are suppressed	688/730 (94.2%)	577/651 (88.6%)	0.92 (0.83, 1.03)	0.12

Viral suppression=<1000 viral copies/mL at 6 months (42 to 270 days) after initiating ART. Participants who did not initiate ART are assumed unsuppressed.

For participants missing a viral load within 270 days but with a viral load measured between 270 and 365 days from ART initiation (n=42), suppression was imputed using the viral load taken 270-365 days post-ART initiation.

[1]Missing values were imputed using reasons for missingness as follows: Participant transferred to a different clinic (n=154): probability equal to the proportion virally suppressed among those with an available viral load at the same site and enrolled during the same step; Follow-up visit not attended (n=98): all assumed to be unsuppressed; Follow-up visit attended but blood not taken (n=17): probability equal to the proportion virally suppressed among those with an available viral load at the same site and enrolled during the same step; Participant death (n=14): probability=0.5; Lack of available result from laboratory (n=8): probability equal to the proportion virally suppressed among those with an available viral load at the same site and enrolled during the same step; No known reason (n=103): probability equal to the weighted average of probability used for all other missingness reasons in the same clinic-step

CONCLUSIONS

- Integrating PrEP into existing ART programs resulted in high initiation of PrEP by HIV-negative members of HIV-serodifferent couples
- At 6 months of initiating ART, viral suppression was high among all partners living with HIV
- There was no statistically significant difference in the frequency of viral suppression at 6 months during control and intervention periods

ACKNOWLEDGEMENTS

- We are grateful to the facilities with ART clinics who participated in this program: Entebbe Hospital, Kira Health Centre IV, Kiswa Health Centre IV, Komamboga Health Centre IV, AIC, Kasangati Health Centre IV, TASO Mulago, Wakiso Health Centre IV, Kawaala Health Centre IV, Kiruddu Hospital, Kisenyi Health Centre IV, and Kisugu Health Centre IV.
- We are especially grateful to the facility staff who championed the launch of PrEP and worked with the research staff on data quality and PrEP counseling.
- We also thank the couples who participated in this study, for their dedication to HIV prevention and treatment and for sharing their experiences with us.

Funding: National Institute of Mental Health (R01MH110296).